Air Live®
Powered by OvisLink Corp.

POE-5010HD

POE 5 Mega-Pixel Box Type IP Camera with ICR

User's Manual

www.airlive.com

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1 Overview

This user's guide explains how to operate this camera from a computer. User should read this manual completely and carefully before you operate the device.

1.1 Introduction

Thank you for purchasing the PoE H.264/MPEG4/MJPEG Full High Definition Mega Pixel Network Camera, a standalone system that can be connected directly to an Ethernet or Fast Ethernet network.

Equipped with a powerful 5 Mega pixel color CMOS sensor, the camera allows you to capture a wider field of view with a resolution of up to 2592 x 1920 resolution. With support for latest H.264 technology, you can record streaming video that utilizes high quality H.264 images to your hard drive, enable motion detection and setup automated e-mail alerts for security.

The camera supports external DC-Iris lens, which provides the power and control signal required for adjusting the lens through the DC-Iris connector (4-pin) on the side panel of the camera. You can attach any standard DC-Iris lens for specific purpose, such outdoor applications. In addition, the camera can attach a variety of external devices for your specific purposes through the GPIO connectors.

Compared to the conventional PC camera, this camera features a built-in CPU and web-based solutions that can provide a cost-effective solution to transmit the real-time high-quality video images and sounds synchronously for monitoring. The camera can be managed remotely, so that you can use a web browser to access and control it from any desktop/notebook computer over the Intranet or Internet.

Compliant with IEEE802.3af PoE (Power over Ethernet) standard, the camera provides you with more flexibility of camera installation according to your application. The camera can be powered by the Ethernet, so that you can place the camera anywhere without a power outlet supported.

Note: This product does not come with lens. It must be purchased separately.

1.2 Features

- Easy installation with setup wizard
- UPnP device discovery and NAT router transversal for easy installation
- Dynamic IP Service, DIPS®, to search your IP camera from Internet easily
- 0.5Lux Minimum Illumination at F1.2
- DC IRIS and IR-CUT Removable(ICR)
- H.264 High Profiles, MPEG4/MJPEG Compression Format
- 5 Mega-Pixel High Resolution Sensor, Support up to 2592x1920 Resolution
- Multiple Profiles Supported(H.264, MPEG4, MJPEG, and 3GPP)
- HTTP/RTSP protocols selectable
- 3GPP for 3G mobile remote application
- 8 fps for 5 Mega-pixel mode
- 15 fps for 3 Mega-pixel mode
- 20 fps for 1080P mode
- Digital zoom
- Support both built-in and external microphone
- Audio line out
- Two-way audio
- Intelligent motion detection up to 3 zones
- Image transmission using an FTP or e-mail for event
- DDNS and PPPoE
- Multi-channel control software for surveillance application
- On-line firmware upgrade
- I/O Connectors and RS-485 Supported
- 802.3af PoE support (wired model only)
- SD/SDHC Slot for Local Storage
- Compatible with ONVIF Standard

1.3 Minimum System Requirements

- Microsoft Internet Explorer 6.0 or later
- Microsoft Media Player 11.0 or later (to playback recorded file)
- VGA Monitor resolution 1280 x 1024 or higher
- Pentium-4 2.0 GHz or higher
- Memory Size: 512MB or more
- Windows XP, Vista,7
- Microsoft® Internet Explorer 7.0 or above; Apple Safari 2 or above; Mozilla Firefox 2.00 or above; Google Chrome

Note: If you connect multiple cameras to monitor various places simultaneously, you are recommended to use a computer with higher performance.

2 Package Contents

User can find the following items in the package as below:

Item	Descriptions
	1. This Unit is the main element of the product. **And Camera Mount Kit** and pads **Note: The lens is optional**. For further information about the lens, please check with your installer.
	2. Power Adapter dedicates 12V DC electric power output to Network Camera.
	3. User's Manual CD provides installation software, application program, important information and instructions for operating the Network Camera.
	4. Quick Start Guide provides important information and instructions for installing this device.

If any of the above items are missing, please contact your dealer immediately.

Note: 1.) Using a power supply with a different voltage than the one included with the Network Camera will cause damage and void the warranty for this product.
2.) This product does not come with lens. It must be purchased separately.

2.1 Connections

Front / Top / Side Panel

1. DC-iris Connector: It allows you to attach the DC-Iris lens (optional).

2. Reset Button: This button is used to restore the all factory default settings. Sometimes restarting the device will make the system back to a normal state. However, if the system still got problems after restart, user can restore the factory default settings and install it again.

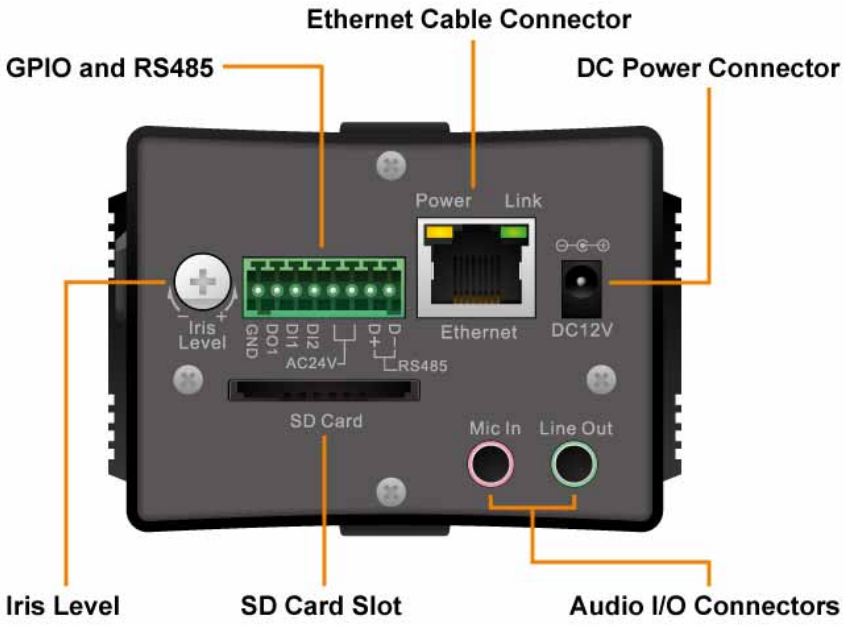
   Restore the device:
   (i) Press the button down continuously.
   (ii) Hold the button at least 5s seconds and release it. Then the device has been restored to default settings and reboot again.

Note: Restoring the factory default setting will lose the all previous settings included IP address forever. User needs to run the IPWizard II program to search the device and configure it to let the device work properly again.

3. Internal Microphone: It allows the camera to receive sound and voice.

4. Screw Hole: It is used to attach the camera stand onto the camera by screwing the screw head of the camera stand into the screw hole of the camera.

Back Panel



1. RJ45 LAN socket: Connect to PC or Hub/Switch.
   For connections to 10Base-T Ethernet or 100Base-TX Fast Ethernet cabling. This Ethernet port built N-Way protocol can detect or negotiate the transmission speed of the network automatically. Please use Category 5 cable to connect the Network Camera to a 100Mbps Fast Ethernet network switch or hub.

   In the LAN socket, there are two LEDs embedded:
   LAN LED (green color)
   This LED will be flashing while network accessing via Ethernet.
   Power (orange color)
   This LED is used to indicate whether DC power is on or not. In addition, this LED will be flashing while the wireless accessing of the Camera.

2. GPIO/RS-485: Connect to a local keyboard controller.
   - DI/ DO: Connect to sensor in and alarm out devices

Cable for I/O connectors:

PIN		SPECIFICATION
1	Ground (Common)	GND
2	GPIO Out #1	Close circuit current maximum: 70mA AC or 100mA Output resistance: 30 ohm Open circuit voltage maximum: 240V AC or 350V DC
3	GPIO In #1	Action high voltage: 9~40 VDC Dropout voltage: 0 VDC
4	GPIO In #2	
5	AC24V Power Input	AC power: 24V
6	AC24V Power Input	
7	RS-485 TX+	Compliant to RS-485
8	RS-485 TX-	

3. DC-in Jack: The input power is 12VDC.
   Note that supply the power to the Network Camera with the power adapter included in package.

4. Audio I/O Connectors
   - MIC in (audio in): Connect a microphone to the network camera.
   - Line out (audio out): Connect a loud speaker to the network camera. This function is for voice alerting and two-way audio.

5. Iris Level: It is used only when the DC-Iris lens is connected to the camera. This screw-knob allows you to adjust the brightness of the video images from the DC-Iris lens.

6. SD Card Slot: SD Card Slot allows you to insert a memory card for expansion of storage.

2.2 Connections Mounting the Camera

1. **Attaching the Wall Mount Kit**

   The Wall Mount Kit that is provided in the package has a swivel ball screw head, so that can you can attach it to the screw hole on the camera's top (or bottom) panel.

   After attaching the camera to the Wall Mount Kit, the camera can be mounted on the wall or ceiling securely through the three screw holes on the base of the Wall Mount Kit.

   Fix the camera to ceiling with the three supplied screws.

2. **Connecting to LAN**

   Use the provided Ethernet cable to connect the camera to your local area network (LAN).

   When you connect the AC power adapter, the camera is powered on automatically. You can verify the power status from the Power LED on the Ethernet port.

   Once connected, the Link LED starts flashing green light and the camera is on standby and ready for use now.

3. Connect the external power supply to Camera

Connect the attached power adapter to the DC power jack of the camera.

Note: Use the power adapter, 12VDC, included in the package and connect it to wall outlet for AC power.

Once you have installed the camera well and powered it on, the power LED (orange) will turn on later. The power LED turned on, it means the system is booting up successfully. Furthermore, if you have a proper network connection, and access to the camera, the LAN LED (green) will flash.

4. Replacing the Lens Assembly

The camera is designed with a CS- mount, allowing you to install any standard C or CS lens that are commonly used in the surveillance application.

■ Installing the Lens Assembly

To install new lens assembly, follow the instructions below:

a) Remove the protective cap.

b) Fit the C or CS lens onto the CS-mount ring and screw it in clockwise.

c) Plug the cable to the DC-Iris connector on the side panel of the camera.

When you use a DC-Iris lens on your camera, you can adjust the brightness of the video image through the Iris Level screw-know on the back panel of the camera.

■ Adjusting the Focus

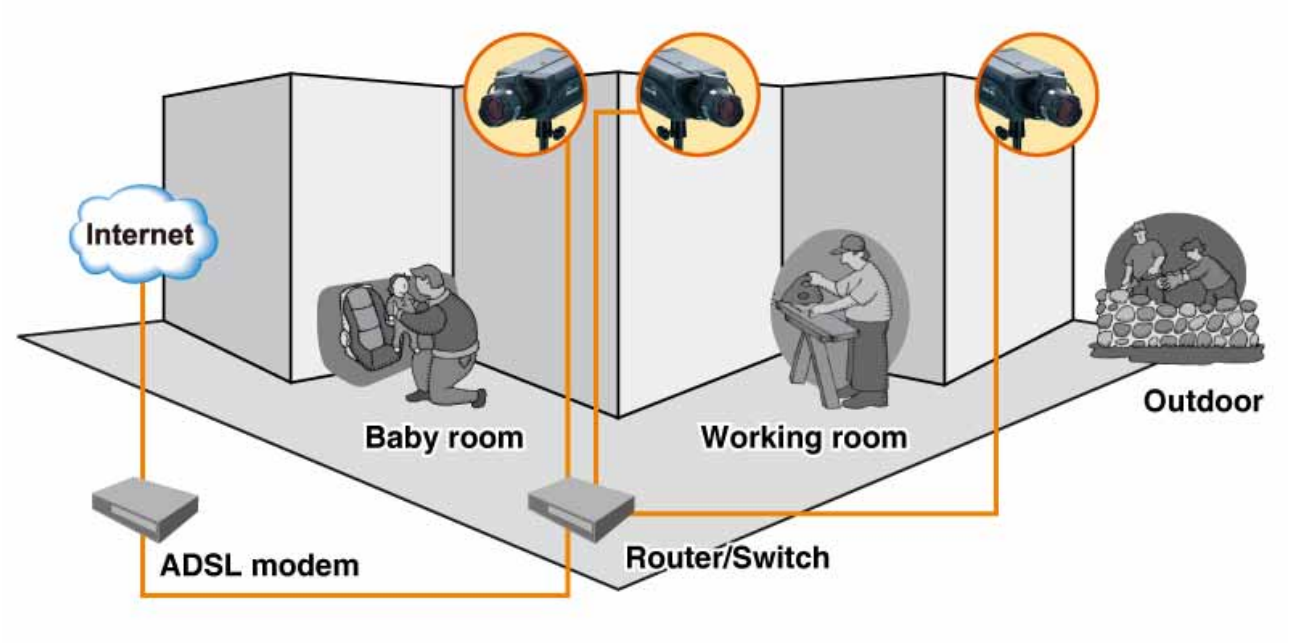
You can use the provided L-type wrench to adjust the lens focus.

5. Applications of the Camera

The camera can be applied in multiple applications, including:

- Monitor local and remote places and objects via Internet or Intranet.
- Capture still images and video clips remotely.
- Upload images or send email messages with the still images attached.

The following diagram explains one of the typical applications for your camera and provides a basic example for installing the camera.



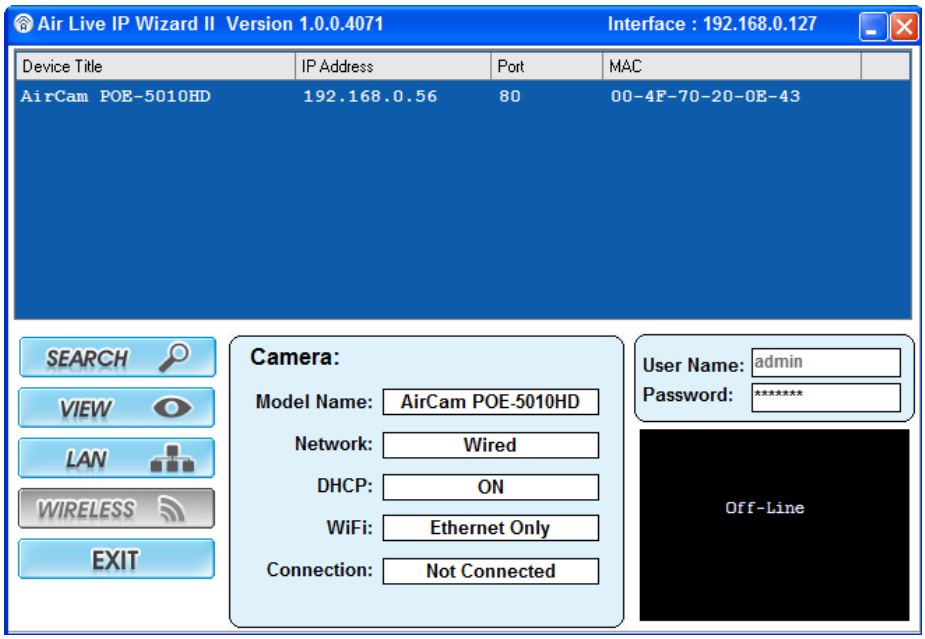
Home Applications of the Internet Cameras

3 Preparation

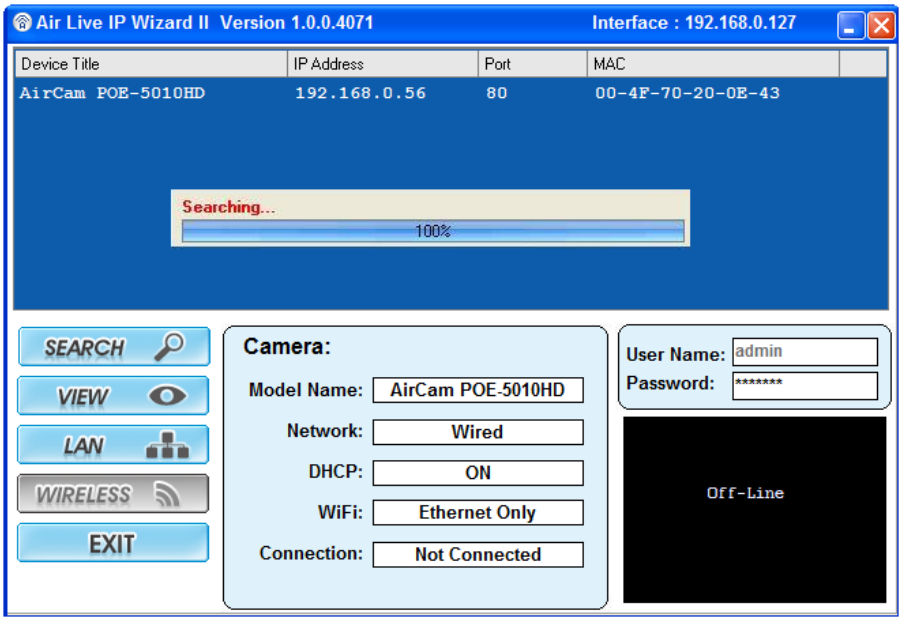
3.1 Search and Set up by IPWizard II

When you installed the Camera on a LAN environment, you have two easy ways to search your Cameras by IPWizard II or UPnP™ discovery. Here is the way to execute IPWizard II to discover Camera's IP address and set up related parameter in a Camera.

Search

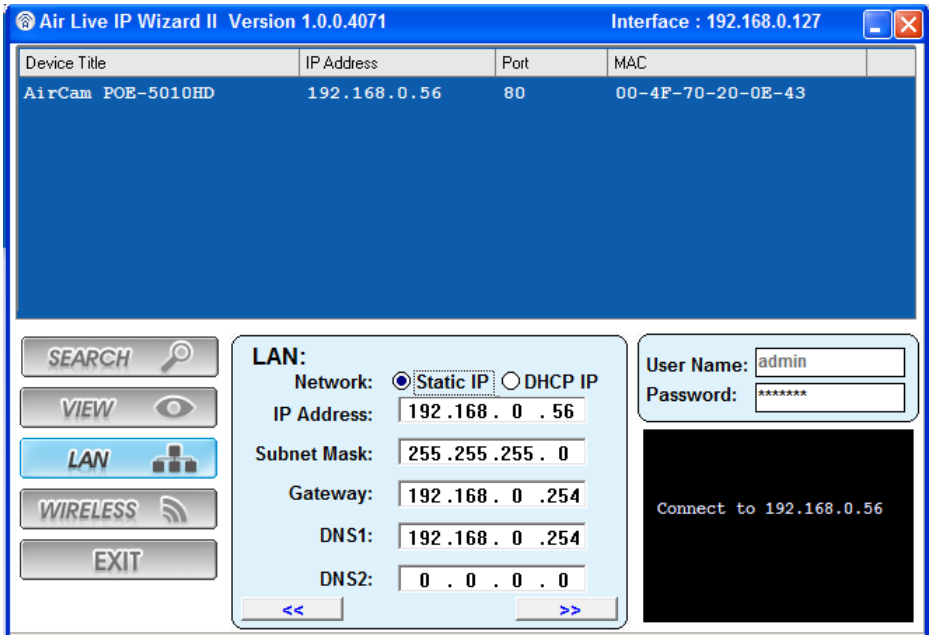


When launch the IPWizard II, a searching window will pop up. IPWizard II is starting to search Network Cameras on the LAN. The existed devices will be listed as below.

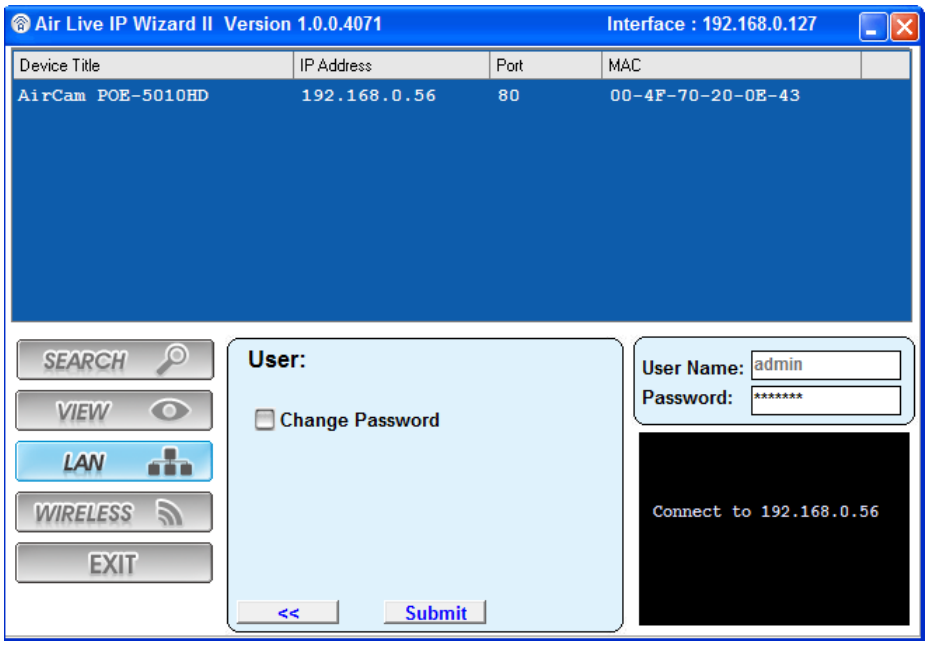


LAN

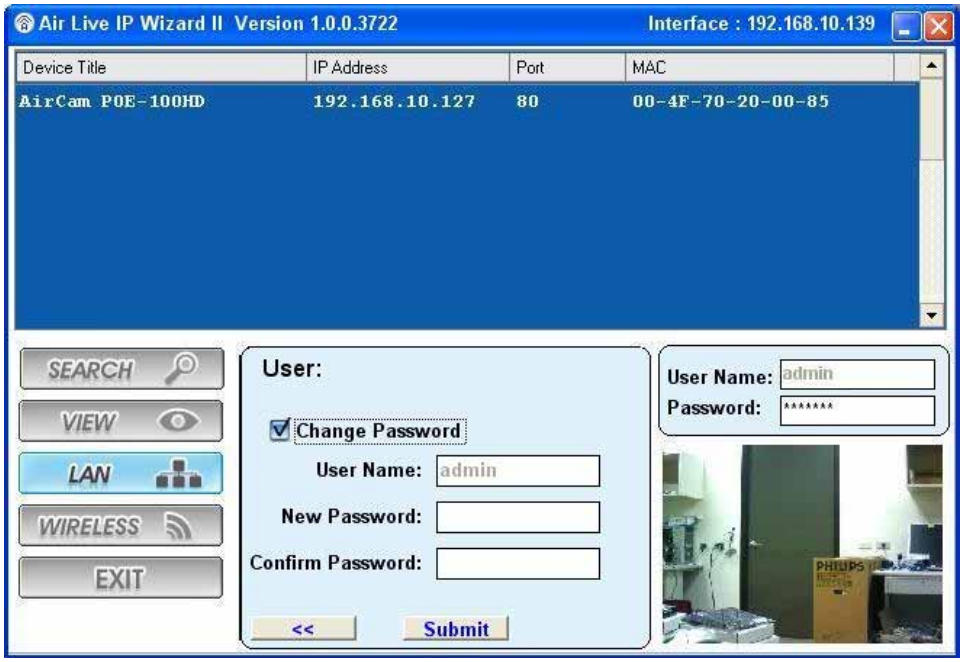
In case you want to change the IP related parameters of wired interface, please select the device you want to configure and click the **LAN** button. Relative settings will be carried out as below.



You could modify the relative settings of the selected device. Click "**<<**" button will quit the LAN setting procedure and click "**>>**" button will move to next page as below.



In case, you do not want to change username and/or password, then just click "**Submit**" button to perform your setting accordingly. Click "**<<**" button will go back to previous page. If you like to change username and/or password of the device, just click the check button. Then, the related fields will show up as below.



After keying in new username and password, click "**Submit**" button to perform your setting accordingly. Click "**<<**" button will go back to previous page.

Wireless

This model does not support wireless function. Therefore, IPWizard II disables this function automatically.

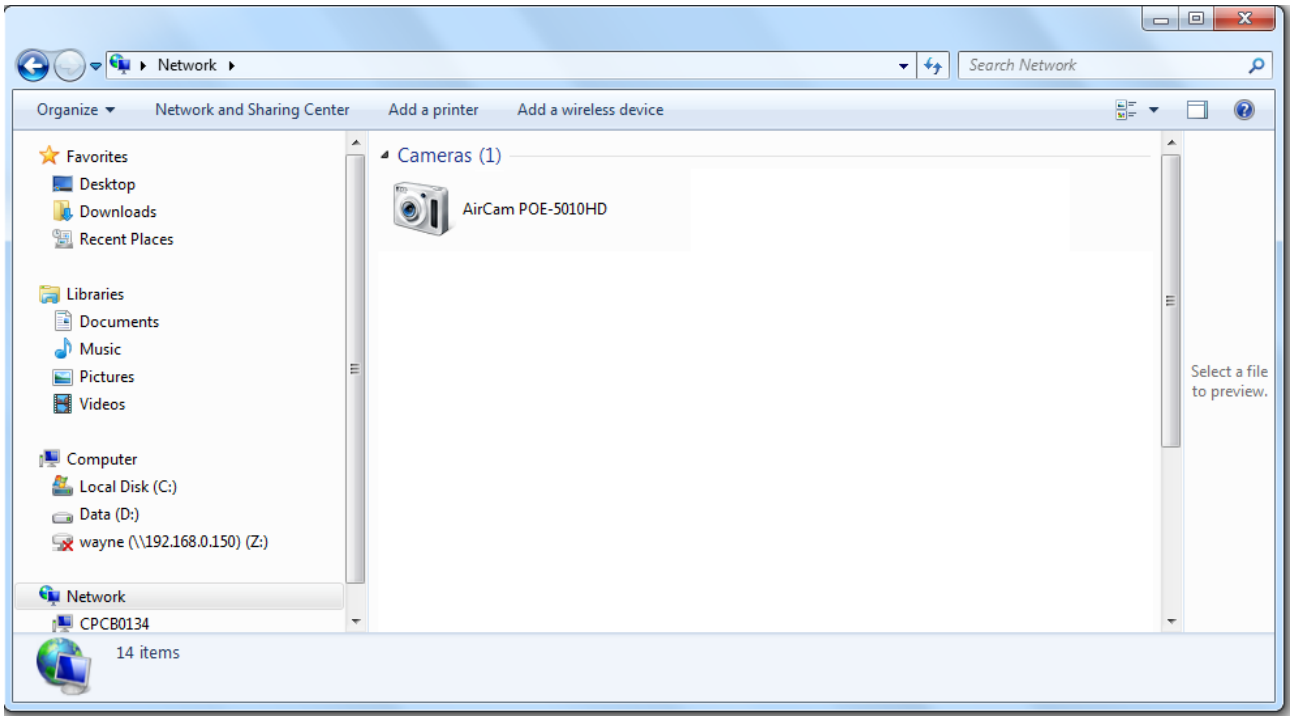
3.2 Using UPnP of Windows® XP or Vista

UPnP™ is short for Universal Plug and Play, which is a networking architecture that provides compatibility among networking equipment, software, and peripherals. This device is an UPnP enabled device. If the operating system, Windows XP or Vista, of your PC is UPnP enabled, the Network Camera will be very easy to be found.

Please refer to Appendix J to enable UPnP settings only if your operating system of PC is running Windows XP.

Note: Windows 2000 does not support UPnP feature.

To discover your device, go to your Desktop and click **My Network Places**.



Click the targeted **Device.** Then Internet Explorer will connect to this Network Camera automatically.

3.3 Install the Device behind a NAT Router

Once installed, the device is accessible on your LAN. To access the device from the Internet you must configure your broadband router to allow incoming data traffic to the device. If the device is installed on the LAN with a router, then it may get a dynamic IP address from the DHCP server. However, if the device wants to be accessed from the WAN, its IP address needs to be setup as fixed IP, also the port forwarding or Virtual Server function of router needs to be setup.

However, if your NAT router supports UPnP feature, it can be very easy to achieve NAT traversal automatically. To do this, enable the NAT-traversal feature, which will attempt to automatically configure the router to allow access to the camera.

Installing the device with an UPnP router on your network is an easy 3–step procedure:

(1) Enable UPnP option of your NAT router
(2) Enable UPnP NAT traversal option of the Network Camera
(3) Access your Network Camera by DIPS

(1) Enable UPnP option of your NAT router

To use UPnP IGD function (NAT traversal), you need to make sure the UPnP function is enabled in your router. Most new home routers should support this function. Some of routers are default enable and others are not. Please check user's manual of your NAT router for detail.

(2) Enable UPnP NAT traversal option of the Network Camera

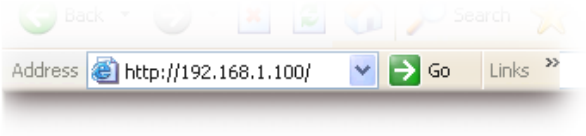
Refer to **Setting ➔ Network ➔ UPnP** page for detail NAT traversal setting.

(3) Access your Network Camera by DIPS

Refer to **Setting ➔ System ➔ System** page for detail DIPS information.

3.4 Access the device from the Internet Explorer for the first time

1. Start the web browser on the computer and type the IP address of the Network Camera you want to monitor as below:



The Login Window of the Camera is prompted:

2. Type in your login name and password under “USERNAME” and “PASSWORD” textbox.

   For the first time use (default value), input the

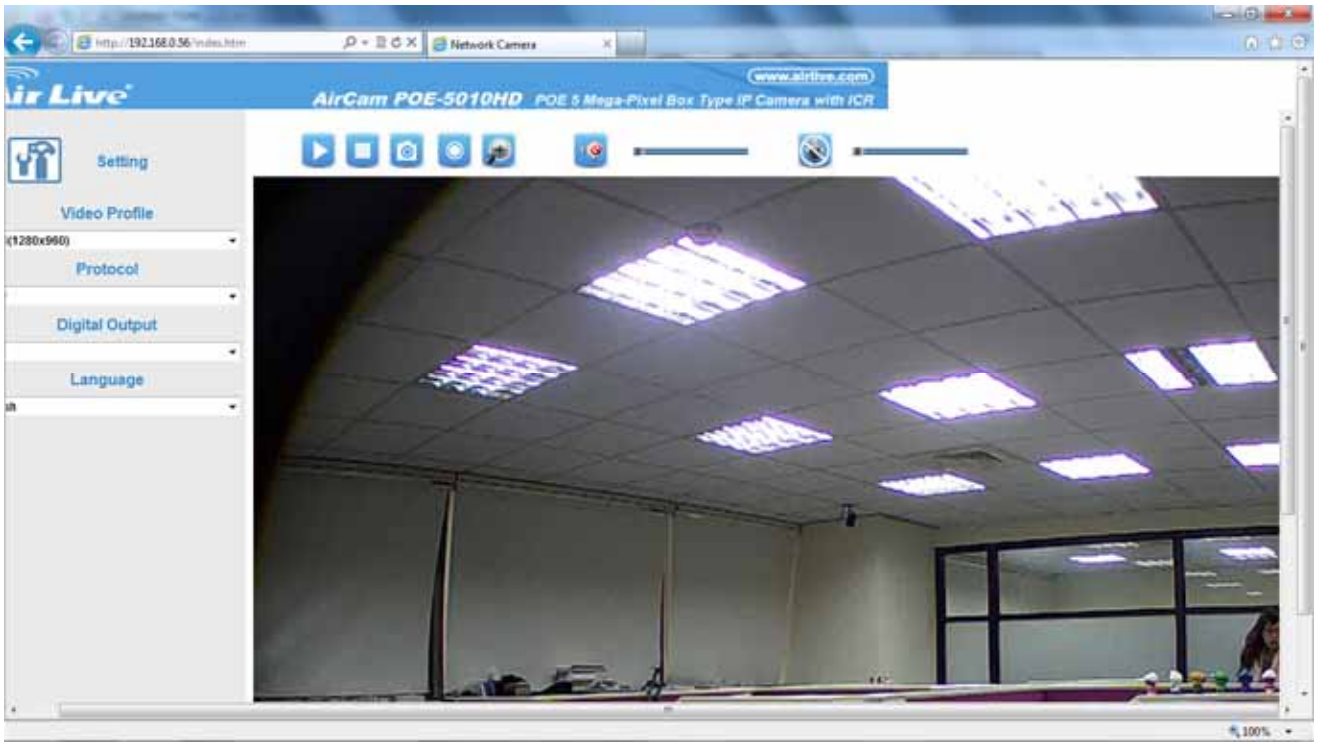
   User Name: admin

   Password: airlive

   That’s, type in “**admin”** on the “USERNAME” as a default name and leave PASSWORD textbox **airlive**. Click “OK” button to start the main menu.

3. According your browser’s security setting, the IE Web Page may prompt the “Security Warning” window. If so, select “Yes” to install and run the ActiveX control into your PC. Otherwise, the system will load the ActiveX silently.

4. After the ActiveX control was installed and ran, the first image will be displayed.



Logging in as an User

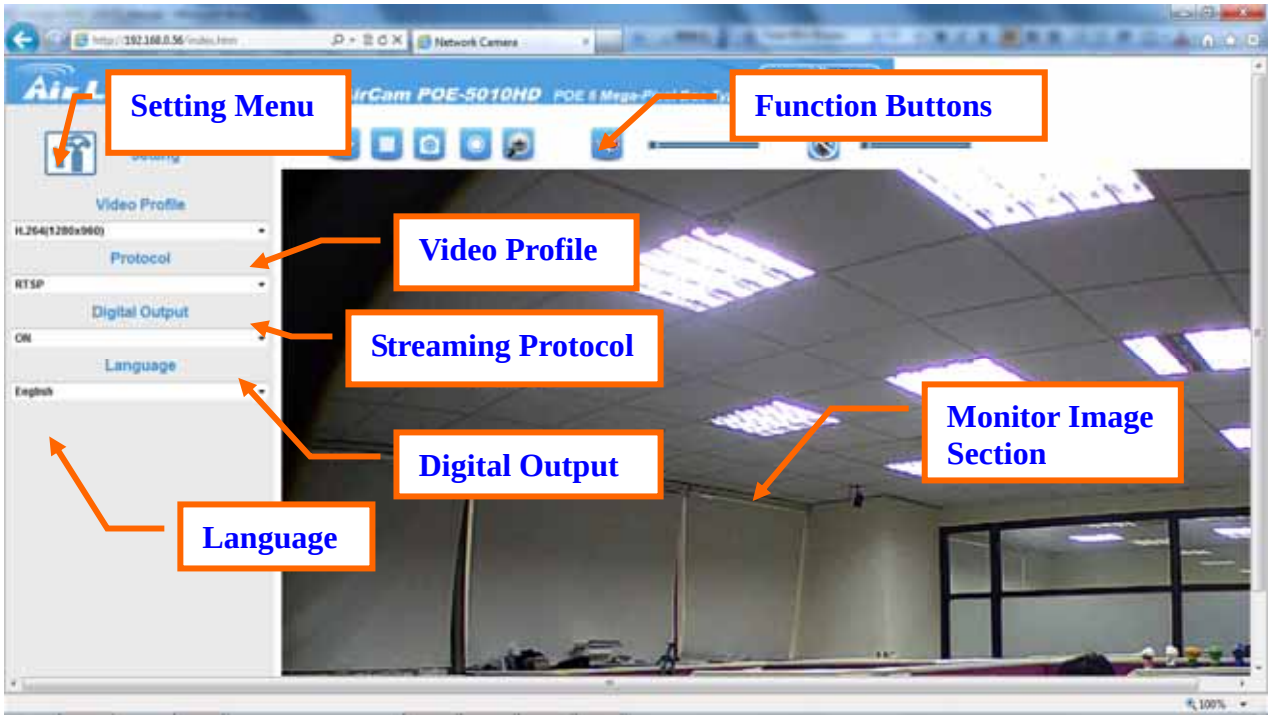
If you log in the Camera as an ordinary User, “Setting” function will be not accessible.

Logging in as an Administrator

If you log in the Network Camera as the Administrator, you can perform all the settings provided within the device.

4 Operating the Network Camera

Start-up screen will be as follow no matter an ordinary users or an administrator.



Monitor Image Section
The image shot by the Network Camera is shown here. The date and time are displayed at the top of the window.

Video Profile
Select to transmit and record the video using H.264 (MPEG4) or MJPEG compression.

Streaming Protocol
User can select proper streaming protocol according to networking environment.

Digital Output
This item allows you to trigger on/off the GPIO output manually.

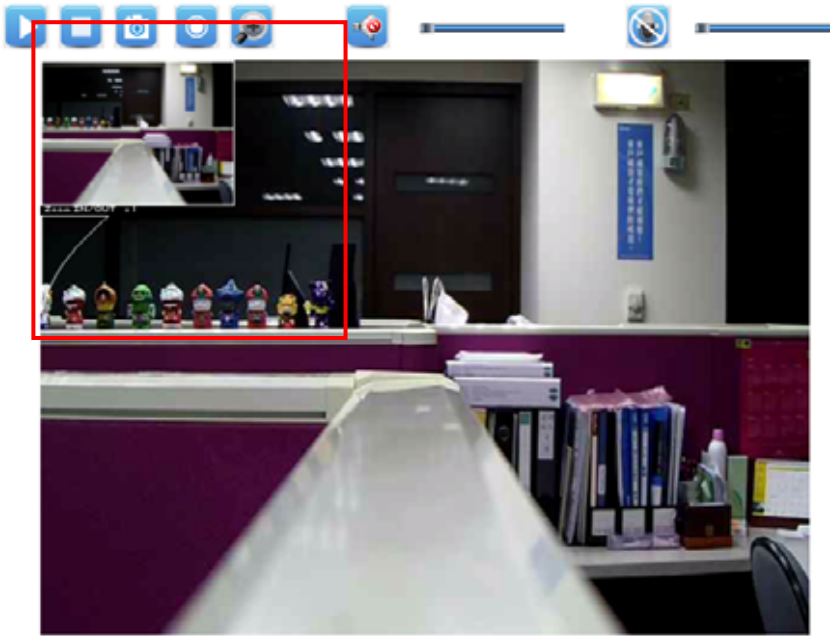
Language
The device could provide multiple languages to meet customer's requirement.

Function Buttons

You can use the function buttons above the window to control the camera's audio, video, and zoom functions.

- : Click to display the live view image of the camera.
- : Click to stop playing the live view image.
- : Click to capture and save a still image.
- : Click to start recording the video of the camera manually.
- : Click to enlarge the image of the camera digitally.

  When you click the button, the **Pan** window and **Zoom IN/OUT** bar will appear on the left-top of Live View Window. You can enlarge the video image digitally by sliding the Zoom IN/OUT bar, and select the area of the image to display by moving the Pan window.



- / : Click to mute/unmute the microphone of the camera. When it is unmuted, you to receive the on-site sound/voice where the camera is installed.

  NOTE The button is available only when the microphone function is enabled from **Setup > Audio/Video/Image > Audio** of Web Configuration.

- / : Click to enable/disable the speaker of the camera. When it is enabled, you can broadcast your sound/voice through the camera.

  NOTE The button is available only when the speaker function is enabled from **Setup > Audio/Video/Image > Audio** of Web Configuration.

5 Administrating the Device

System Setting

This function is only available for user logged into Network Camera as administrator.
You can access and manage the camera through the Web browser. This chapter describes the Web Configuration, and guides you through the configuration of the camera by using the Web browser.

To configure the camera, click

on the Main screen of Web Configuration.

The Web Configuration contains the settings that are required for the camera in the left menu bar, including **Setup**, **Network**, **Audio/Video/Image**, **Security**, **Advance**, and **Status**.

Click on each menu name to display its setting page.

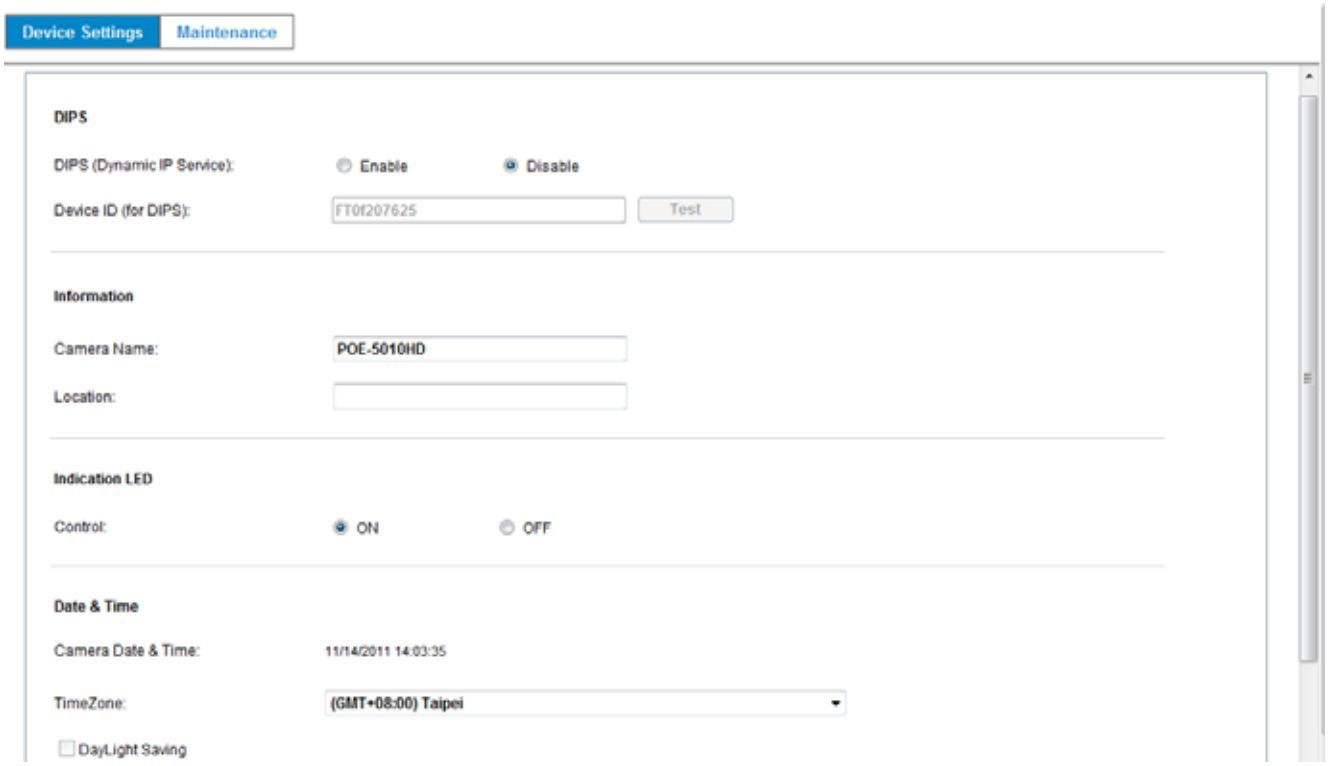
Item	Action
Setup	The Setup menu contains two sub-menus that provide the system settings for the camera, such as the Camera Name, Location, Date & Time, etc
Network	The Network menu contains the networking related settings for the camera, such as the IP Setting, DDNS Setting, IP Filter, etc.
Image	Adjust camera parameters, day & night.
Video	Configure bit rate and frame rate of video profiles
Audio	Configure audio parameters
Security	The Security menu provides the required options for administrator to control the camera for security purpose.
Advance	The Advance menu contains five sub-menus that allow you to set up the advanced feature of the camera, including the event, event schedule, motion detection, recording, RS-485, etc.

Status	The Status menu provides the current status of the camera, including the basic information, audio/video settings, networking configuration, and system logs.

5.1 System Setting: Configure and maintain system

5.1.1 Device Settings

Use this menu to perform the principal settings of the device.



DIPS (Dynamic IP Service):
To enable or disable the DIPS® (Dynamic IP Service) function.

Device ID (for DIPS):
It's a unique number of each device for identification and this ID is used for DIPS. This function now is reserved for future use.

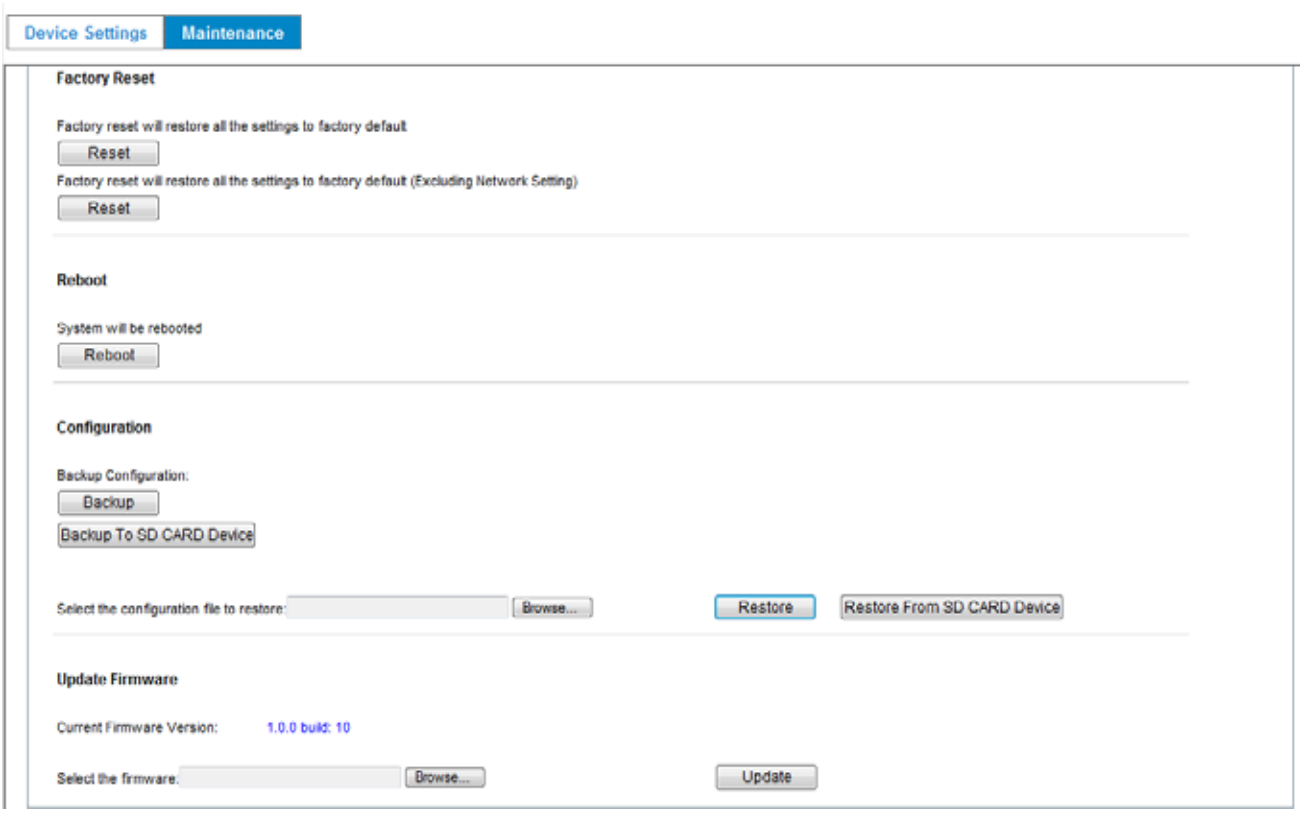
Indication LED: This item allows you to set the LED illumination as desired. The available options include: **Normal** and **OFF**.

Date and Time: Enter the correct date and time for the system.

- **Time Zone:** Select the proper time zone for the region from the pull-down menu.
- **DayLight Saving:** Select this option if the Daylight Saving Time is used in your location.

  Daylight Saving means a period from late spring to early fall, and during the period many countries will set their clocks ahead of normal local time by one hour to give more daytime light in the evening.
- **Don't Modify:** Select this option to set the date and time as system's default settings.
- **Synchronize with NTP Server:** Select this option and the time will be synchronized with the NTP Server. You need to enter the **NTP Server Address** of the server and set the **Update Interval**.
- **Manual:** Select this option to set the date and time manually.
- **Synchronize with PC:** Select this option and the date & time settings of the camera will be synchronized with the connected computer.

5.1.2 Maintenance



Factory Reset: Click **Reset** to restore all factory default settings for the camera.

Reboot: Click **Reboot** to restart the camera just like turning the device off and on. The camera configuration will be retained after rebooting.

Configuration: You can save your camera configuration as a backup file on your computer. Whenever you want to resume the original settings, you can restore them by retrieving the backup file.

- **Backup:** Click the button to save the current configuration of the camera.
- **Restore:** Click **Browse** to locate the backup file on your PC and then click **Restore**. You can also click **Restore From SD CARD Device** if the backup file is saved in the inserted SD card.

Update Firmware: You can upgrade the firmware for your camera once you obtained a latest version of firmware.

- **Current Firmware Version:** This item displays the current firmware version.
- **Update:** Click **Browse** to locate the backup file on your PC and then click **Update**.

Warning!!!

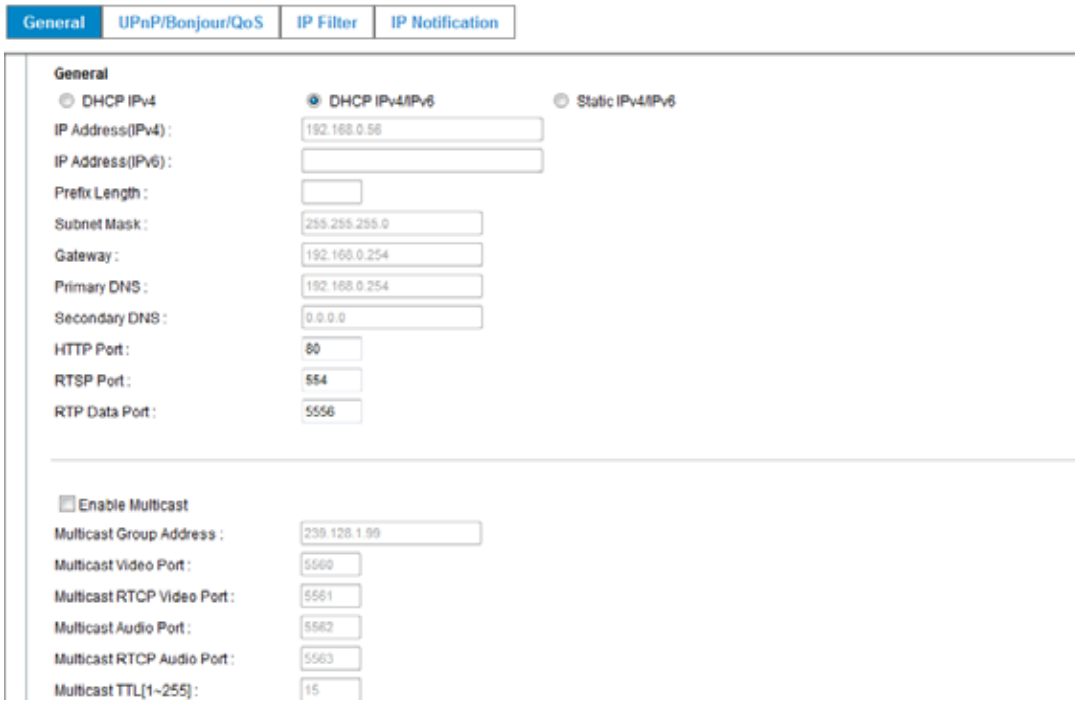
The download firmware procedure can not be interrupted. If the power and/or network connection are broken during the download procedure, it might possibly cause serious damage to the device.
Strongly suggest that DO NOT upgrade firmware via Wireless LAN due to high error rate possibly and don't allow any other clients to access this unit during updating procedure.
Be aware that you should not turn off the power during updating the firmware and wait for finish message.
Furthermore, the firmware upgrade procedure always is risk and do not try to upgrade new firmware if it’s not necessary.

5.2 Network: Configure Network Settings

This section provides the menu for connecting the device through Ethernet cable.
The Network menu contains the networking related settings for the camera, such as the IP Setting, DDNS Setting, IP Filter, etc.

When completed, click **Apply** to save the settings

5.2.1 General



DHCP / Static IP:

This field allows you to select the IP address mode and set up the related configuration. The avail options include: **DHCP IPv4**, **DHCP IPv4/IPv6**, and **Static IPv4/IPv6**.

- **DHCP IPv4:** Select this option when your network uses the DHCP server. When the camera starts up, it will be assigned an IP address from the DHCP server automatically.
- **DHCP IPv4/IPv6:** DHCP for IPv6 enables the DHCP server to pass the configuration parameters (e.g. the IPv6 network addressed) to the IPv6 nodes, which offers the capability of automatic allocation of reusable network addresses and additional configuration flexibility. Select this option if your network supports DHCP IPv6 protocol. When the camera starts up, it will be assigned an IP address from the DHCP server automatically.
- **Static IPv4/IPv6:** Select this option to assign the IP address for the camera directly. You can use IPFinder to obtain the related setting values.

IP Address (IPv4/IPv6)	Enter the IP address of the camera. The default setting is 192.168.1.100.
Subnet Mask	Enter the Subnet Mask of the camera. The default setting is 255.255.255.0.

Default Gateway	Enter the Default Gateway of the camera. The default setting is 192.168.1.254
Primary/ Secondary DNS	DNS (Domain Name System) translates domain names into IP addresses. Enter the Primary DNS and Secondary DNS that are provided by ISP.
HTTP Port	The default HTTP port is **80**.
RTSP Port	The default RTSP Port (Real Time Streaming Protocol) is **554**.
RTP Data Port	RTP (Real-time Transport Protocol) is a data transfer protocol defined to deliver live media to the clients at the same time, which defines the transmission of video and audio files in real time for Internet applications. The default RTP Data Port is **5556**.

Enable Multicast: Select this option to enable the multicast function of the camera, and then complete the following settings so that you can deliver information from your camera to a set of receivers.

- **Multicast Group Address:** Assign a category of IP addresses to receive the information from the camera.
- **Multicast Video Port:** Assign a multicast port for video in the text box. The default port is **5560**.
- **Multicast RTCP Video Port:** Assign a multicast port for RTCP (real-time transport control protocol) video in the text box. The default port is **5561**.
- **Multicast Audio Port:** Assign a multicast port for audio in the text box. The default port is **5562**.
- **Multicast RTCP Audio Port:** Assign a multicast port for RTCP (real-time transport control protocol) audio in the text box. The default port is **5563**.
- **Multicast TTL:** Set the value from 1 to 255. TTL (time to live) is used to specify the time to live in the IP header so that the system is able to decide whether or not the packet has been in the network too long and should be discarded.

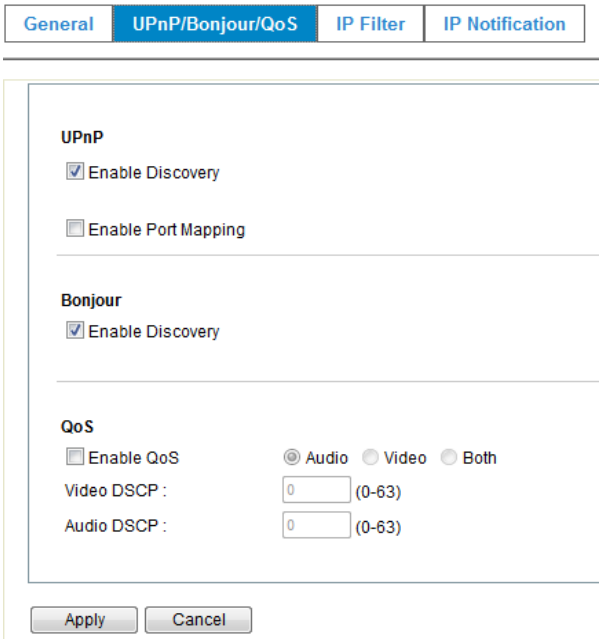
Enable PPPoE: Select this option when you use a direct connection via the ADSL modem. You should have a PPPoE account from your Internet service provider. Enter the **User Name** and **Password**. The camera will get an IP address from the ISP as starting up.

NOTE Once the camera get an IP address from the ISP as starting up, it automatically sends a notification email to you. Therefore, when you select PPPoE as your connecting type, you have to set up the email or DDNS configuration in advance.

Enable DDNS: Select this option to enable DDNS service of the camera. With the Dynamic DNS feature, you can assign a fixed host and domain name to a dynamic Internet IP address. To set up the DDNS, select the **Provider** from the pull-down menu and then enter the required information in the **Host Name**, **User Name**, and **Password** text boxes.

NOTE You have to sign up for DDNS service with the service provider before configuring this feature.

5.2.2 UPnP/Bonjour/QoS



UPnP: The camera supports UPnP (Universal Plug and Play), which is a set of computer network protocols that enable the device-to-device interoperability. Select the **Enable Discovery** option to enable the feature.

In addition, it supports port auto mapping function so that you can access the camera if it is behind an NAT router or firewall. Select the **Enable Port Mapping** option to enable the feature.

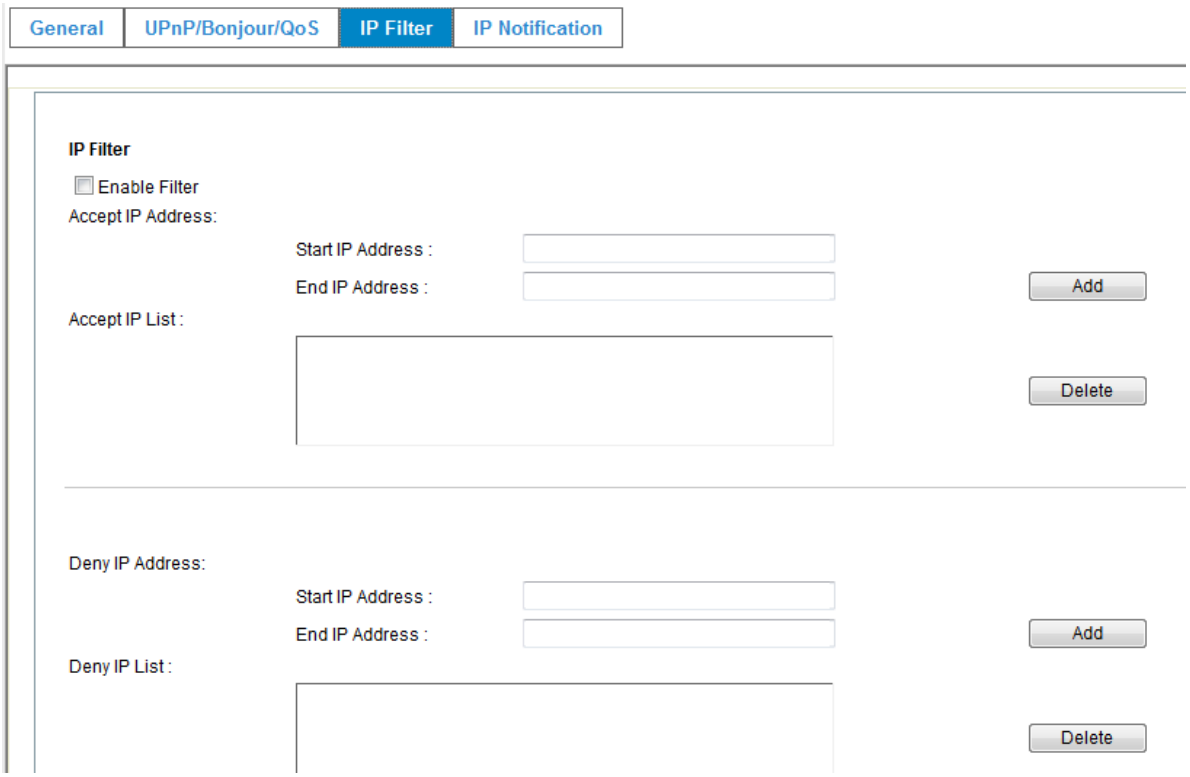
Bonjour: The devices with Bonjour will automatically broadcast their own services and listen for services being offered for the use of others. Select the **Enable Discovery** option and, if your browser with Bonjour, you can find the camera on your local network without knowing its IP address.

The Apple Safari is already with Bonjour. You can download the complete Bonjour for Internet Explorer browser from Apple's web site by visiting http://www.apple.com/bonjour/.

QoS: QoS (quality of service) is the ability to provide different priority to different applications or data flows.

- **Video DSCP:** Assign the DSCP (DiffServ Code Point) of the stream video from the camera by setting the value from 0 to 63.
- **Audio DSCP:** Assign the DSCP (DiffServ Code Point) of the stream audio from the camera by setting the value from 0 to 63.

5.2.3 IP Filter

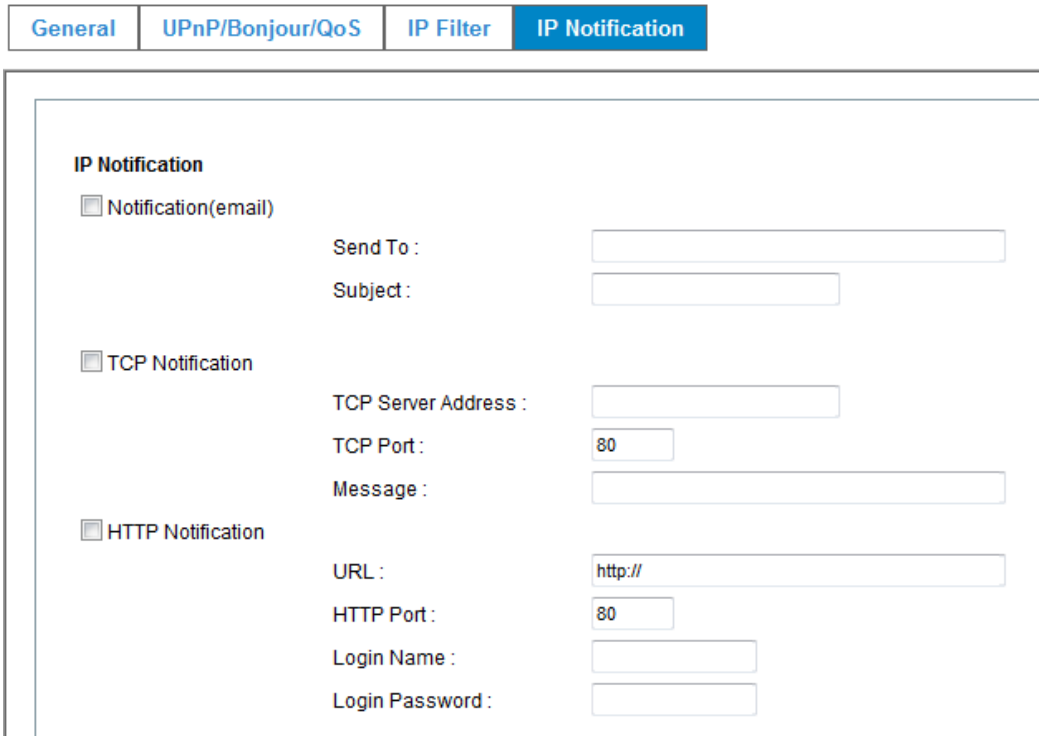


The IP Filter setting allows the administrator of the camera to limit the users within a certain range of IP addresses to access the camera. Select the **Enable Filter** option and assign the range of IP addresses that are allowed to access the camera in the **Accept IP Address** field; or assign the range of IP addresses that are blocked to access the camera in the **Deny IP Address** field.

For example, when you enter *192.168.0.50/192.168.0.80* in **Start/End IP Address** of **Accept IP Address** and then click **Add**, the user whose IP address located within *192.168.0.50 ~ 192.168.0.80* will be allowed to access the camera. On the other hand, if you enter the IP range in **Start/End IP Address** of **Deny IP Address** and then click **Add**, the user whose IP address located within the range will not be allowed to access the camera.

To remove the assigned range of IP addresses for IP Filter, select the setting in the **Accept/Deny IP List** and then click **Delete**.

5.2.4 IP Notification



In case the IP address is changed, system is able to send out an email to alert someone if the function is enabled.

SMTP Notification (e-mail):

If enable this function, then the "**Send to**" and "**Subject**" fields need to be filled.

Send To:

Type the receiver's e-mail address. This address is used for reply mail.

Subject:

Type the subject/title of the E-mail.

TCP Notification:

If enable this function, then the "**TCP Server**", "**TCP Port**", and "**Message**" fields need to be filled.

TCP Server:

Type the server name or the IP address of the TCP server.

TCP Port:

Set port number of TCP server.

Message:

The message will be sent to FTP server.

HTTP Notification:

If enable this function, then the fields below need to be filled.

URL:

Type the server name or the IP address of the HTTP server.

HTTP Login name:

Type the user name for the HTTP server.

HTTP Login Password:

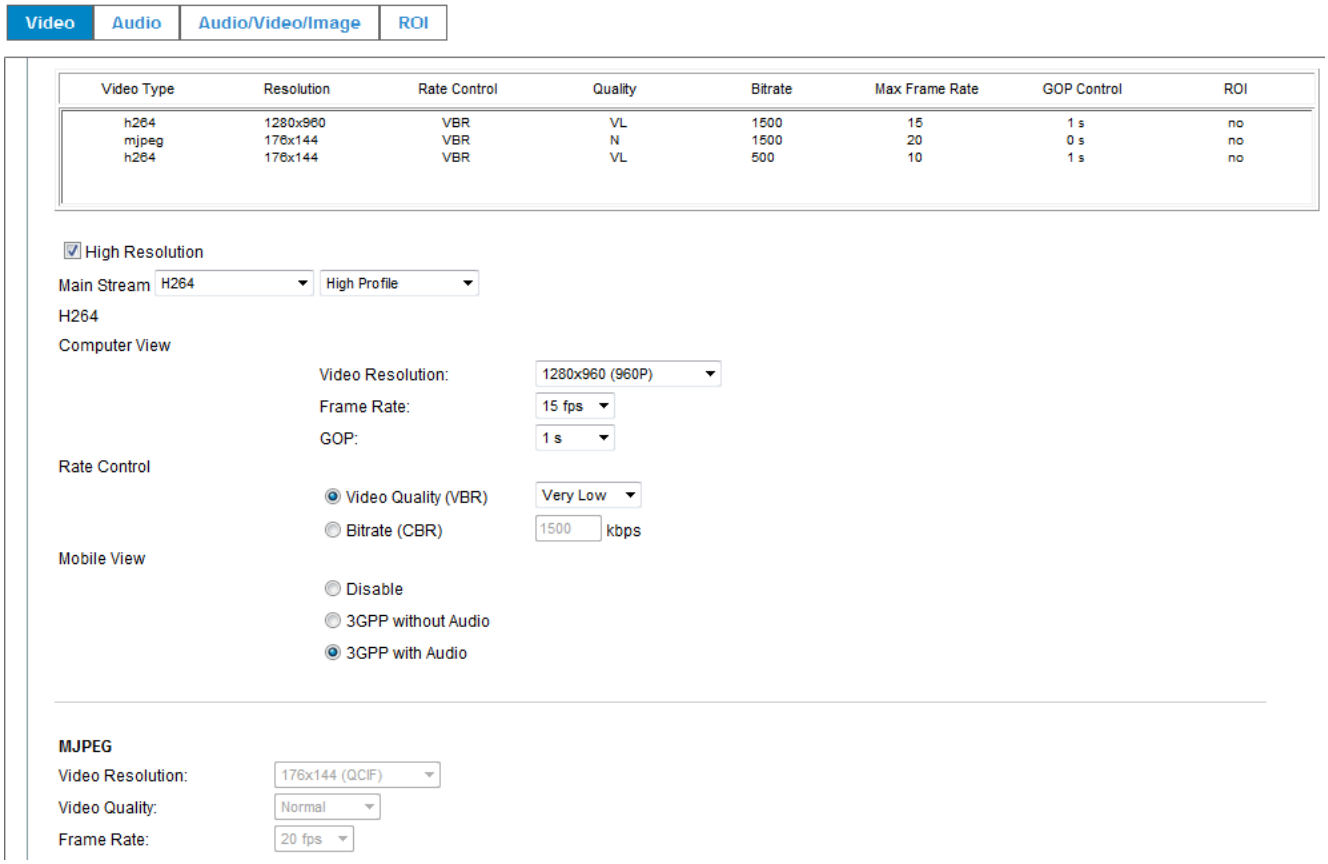
Type the password for the HTTP server.

5.3 Audio/Video/Image

The Audio/Video/Image menu contains three sub-menus to provide the video and audio settings for the camera.

When completed, click **Apply** to save the settings.

5.3.1 Video



High Resolution: Select this option to enable the camera to capture images in high resolution mode (up to 2592 x 1960 @ 8fps). When the option is selected, you can select the desired option from the **Main Stream** pull-down menu and then complete the following to set the camera to capture images in **H.264**, **MPEG4**, or **MJEPG** format.

- **Computer View:** Select the desired resolution that you can view on PC from the **Video Resolution** pull-down menu: up to 2592 x 1960 if High Resolution is selected.

  You also need to select a proper setting of **Frame Rate**.

  Please note that higher settings in **Computer View** and **Frame Rate** obtain better video quality while it uses more resource within your network.

NOTE When High Resolution is disabled, you can only set the **Video Resolution** as **1280x720 (720P)**, **720x480 (D1)**, **640x480 (VGA)**, **320x240 (QVGA)**, or **176x144 (QCIF)**.

- **Rate Control:** Set the proper image quality by selecting **Video Quality** or **Bitrate**, and then select the desired settings from the pull-down menu:

  Video Quality: Select **Very Low**, **Low**, **Normal**, **High**, or **Very High** from the pull-down menu.

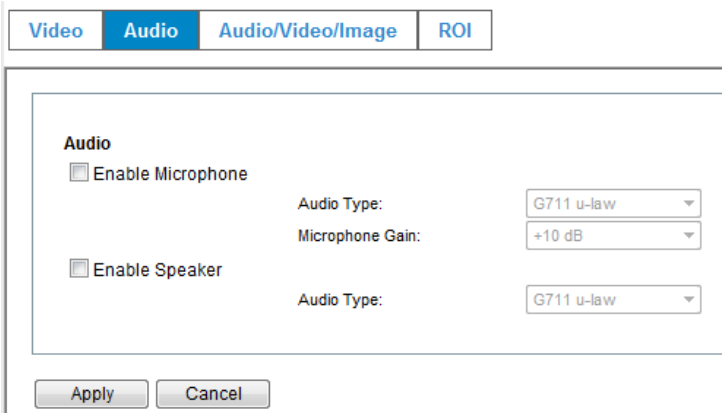
  Bitrate: Set a proper value (in kbps) depending on your network status.

- **Mobile View** (Not supported by MPEG4)**:** The camera supports 3GPP specification. Select the **Disable** option to disable this feature. Otherwise, select **3GPP Without Audio** or **3GPP With Audio** to transfer the video clips without or with audio.

  If you use a mobile phone that supports 3GPP, you can also view the real-time streaming image captured by the camera on your phone (with the default player on the phone) by entering the RTSP link:
  rtsp://(IP address of the camera)/3gp

NOTE Your mobile phone and the service provider must support 3GPP function. Please contact your service provider when you are failed to use this service.

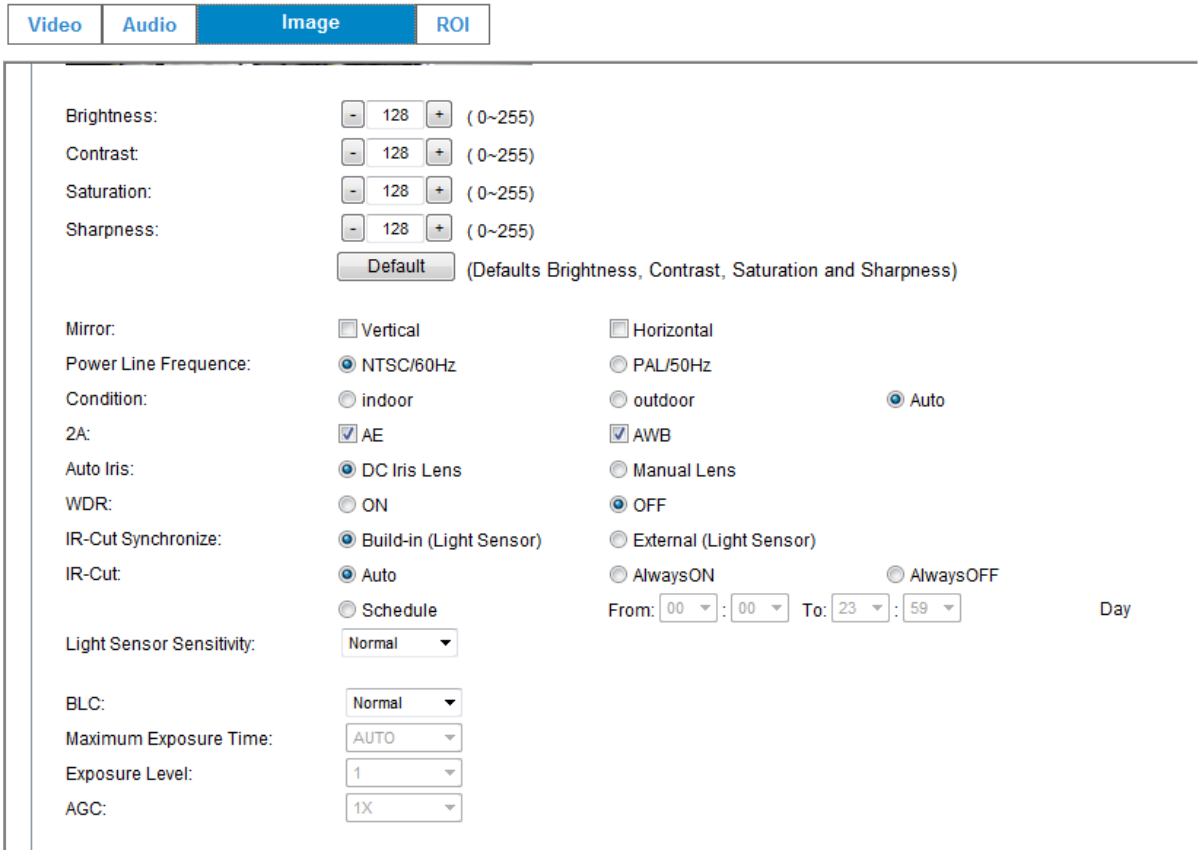
5.3.2 Audio



Enable Microphone: Select the option to enable the camera's audio in function, so that you can receive the on-site sound and voice from the camera.

Enable Speaker: Select the option to enable the camera's audio out function, so that the connected speaker can play the sound and voice through the camera.

5.3.3 Image



Brightness: Adjust the brightness level from 0~255.

Contrast: Adjust the contrast level from 0~255.

Saturation: Adjust the colors level from 0~255.

Sharpness: Adjust the sharpness level from 0 ~ 100.

TIP Click **Default** to restore the default settings of the three options above.

Mirror: Select **Vertical** to mirror the image vertically, or select **Horizontal** to mirror the image horizontally.

Power Line Frequency: Select the proper frequency according to the camera's location to reduce the flicker: **NTSC/60Hz** or **PAL/50Hz**.

Auto Iris: When you attach a DC-Iris lens with the auto Iris function, select **ON/OFF** to enable/disable the feature.

IR-Cut: IR-Cut filter is used for the camera to produce true color images, which avoids the color deviation for the captured images effectively. Select **Auto**, **AlwaysON**, **AlwaysOFF**, or **Schedule** (and then set the period by entering From/To time) for the function.

Overlay Setting: This option is used to set the image overlay and mask feature of the camera.

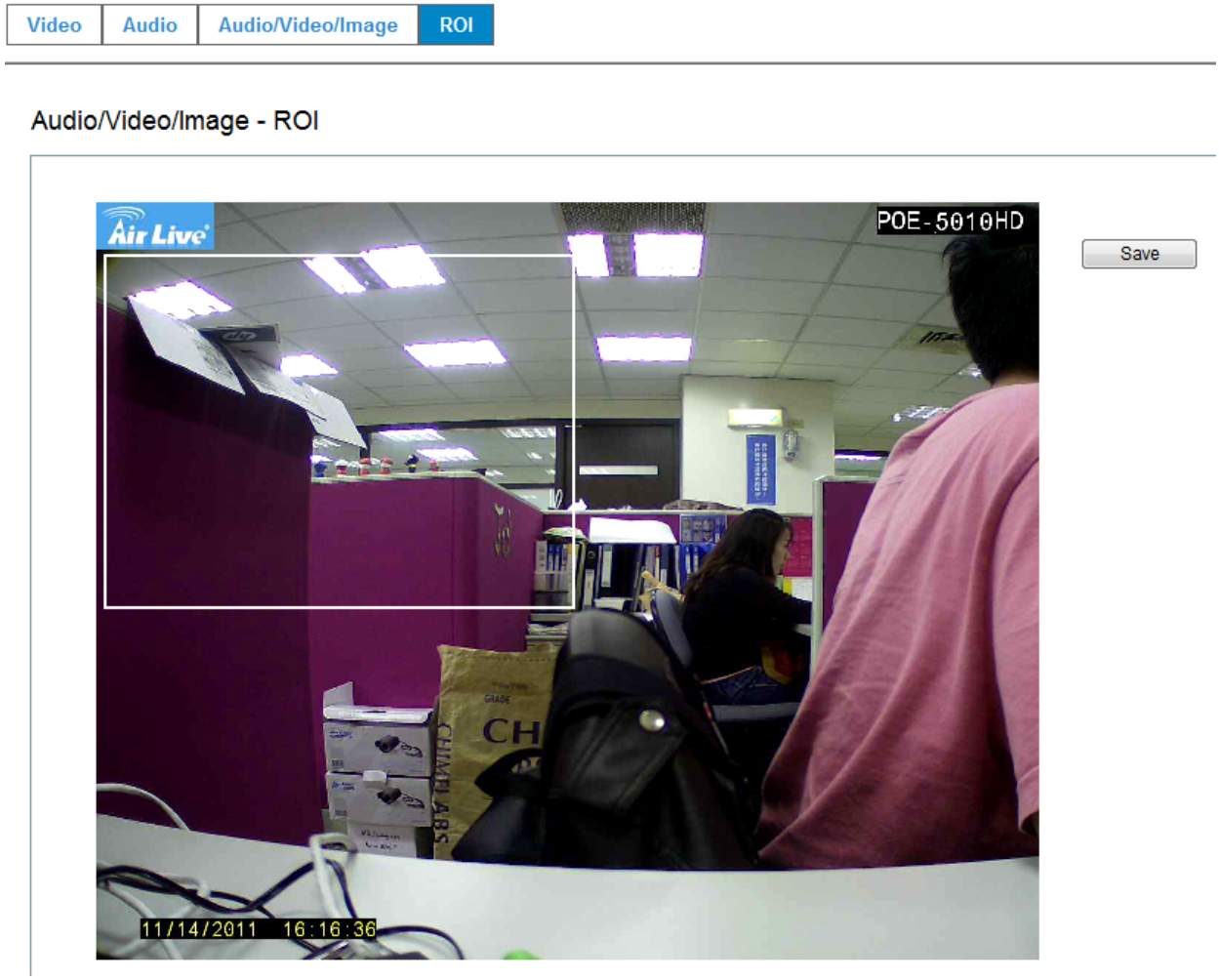
- **Enable Time Stamp:** Select this option to display the date & time information on the live view image.
- **Enable Text Display:** Select this option and enter your heading text in the box to display the text information on the live view image. You can set the displayed text in transparent mode by selecting the **Transparent** option.
- **Enable Image Overlay:** Select **Default Logo** or **User Define Image** to display the image overlay on the live view image.

  You can set the displayed image in transparent mode by selecting the **Transparent** option and select the background color as white or black.

  When you select **User Define Image**, you can click **Browse** to select the image file from your computer and then click **Update** to apply the setting.

NOTE The width and height of the input overlay graphic should be multiple of 4 at a maximum size of 160x128, and in JPG or BMP (24-bit RGB) format.

5.3.4 ROI



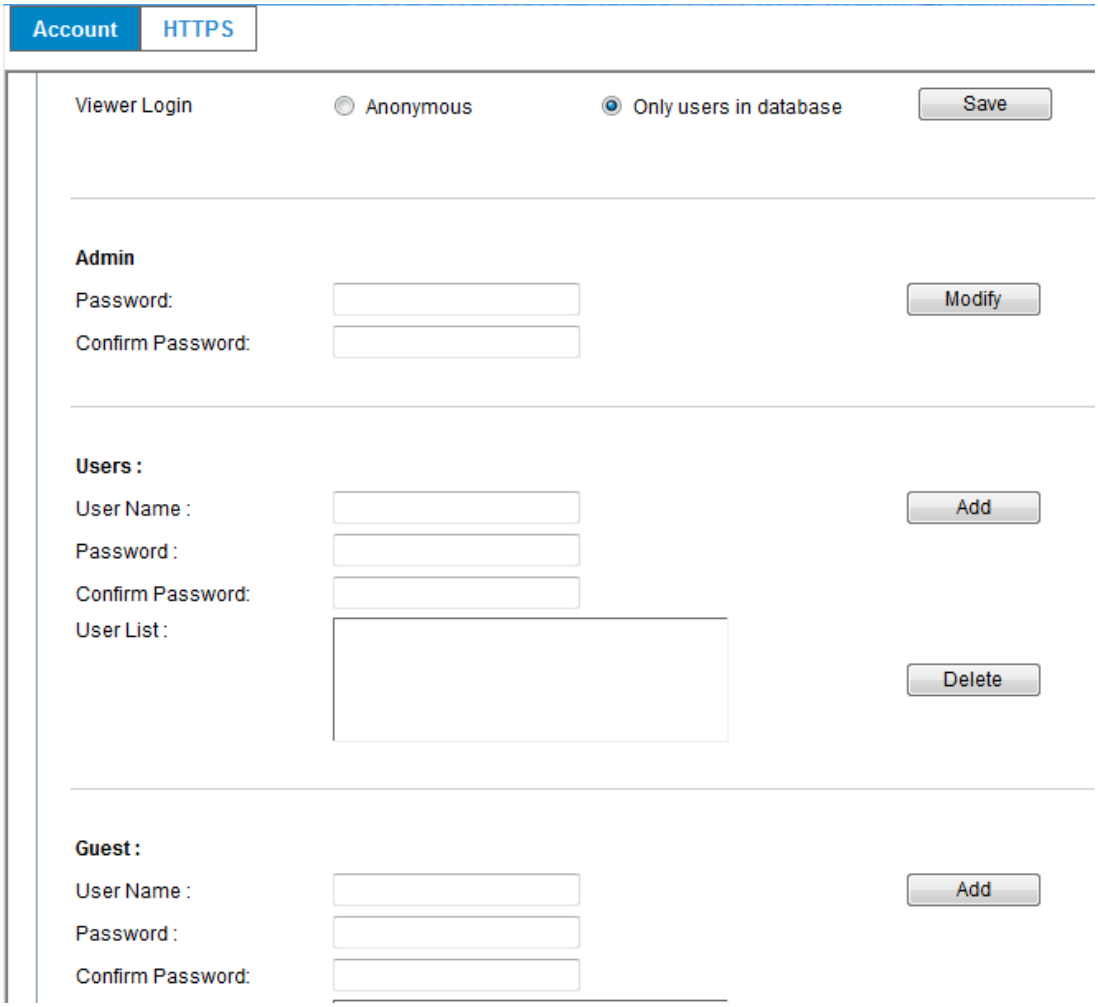
ROI means Region of Interest. When the main stream is set to High Resolution, user can select specified region for monitoring, for this will saving the bandwidth if there are too many collision on the network.

5.4 Security

The Security menu provides the required options for administrator to control the camera for security purpose.

When completed, click **Apply** to save the settings.

5.4.1 Account



Admin

To prevent unauthorized access to the camera's Web Configuration, you are strongly recommend to change the default administrator password. Type the administrator password twice and then click **Modify** to set and confirm the password.

Users

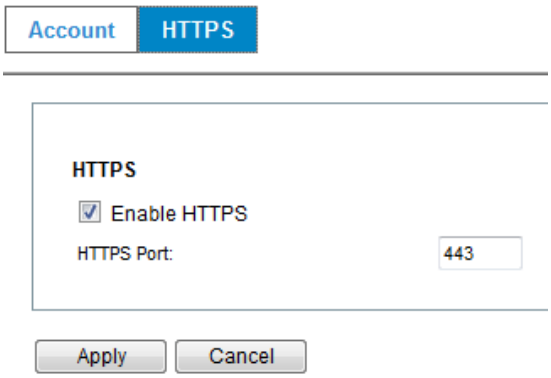
- **User Name/Password/Confirm Password:** Enter the user's name you want to add to use the camera. Then, enter the password twice for the new user. When done, click Add to add the new user for the camera.
- **User List:** Display the existing users of the camera. To delete a user, select the one you want to delete and click **Delete**.

Guest

- **User Name/Password/Confirm Password:** Enter the user's name you want to add to use the camera. Then, enter the password twice for the new user. When done, click Add to add the new user for the camera.
- **UserList:** Display the existing guests of the camera. To delete a user, select the one you want to delete and click **Delete**.

NOTE The "Users" can access the camera and control the Function buttons of the camera's Web Configuration; the "Guest' can only view the live view image from the Main screen of the Web Configuration while accessing the camera. Only the "Admin" is allowed to configure the camera through the Web Configuration.

5.4.2 HTTPS



HTTPS: Select the **Enable HTTPS** option to enable HTTPS, which is a secure protocol to provide authenticated and encrypted communication within your network.

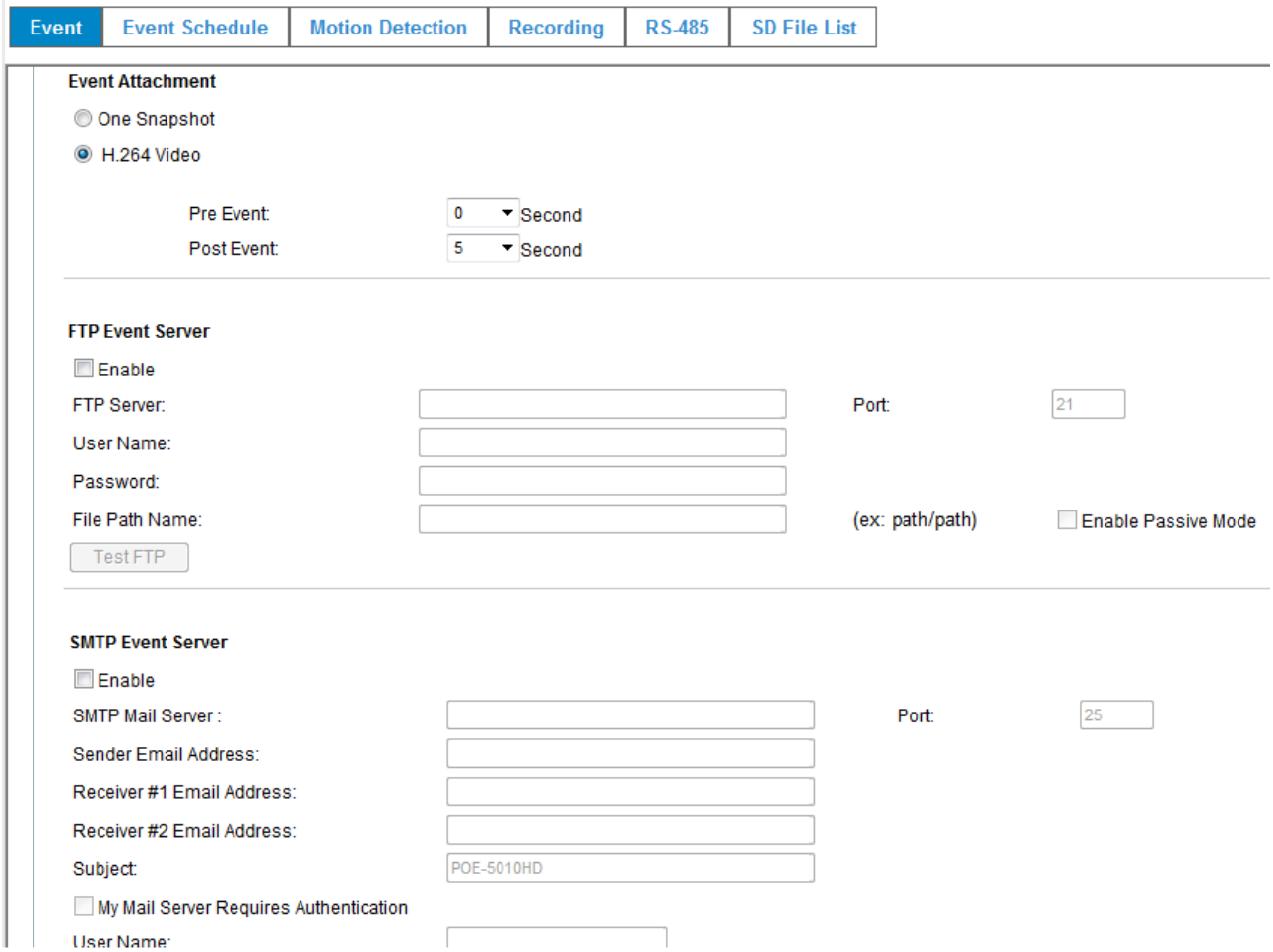
- **HTTPS Port:** Assign a HTTPS port in the text box. The default HTTPS port is **443**.

5.5 Advance

The Advance menu contains five sub-menus that allow you to set up the advanced feature of the camera, including the event, event schedule, motion detection, recording, RS-485, etc.

When completed, click **Apply** to save the settings.

5.5.1 Event



Event Attachment: Select **One Snapshot** to send the alert message with one still image captured by the camera, or select **H264 Video** to send the alert message with one video clip recorded by the camera.

You can set the attachment that is captured in **Pre Event** or **Post Event** time when the event has been triggered.

FTP Event Server: Select **Enable** to enable the FTP server for the camera.

- **FTP Server:** Enter the IP address of the target FTP server.
- **Port:** Enter the port number used for the FTP server.
- **User Name:** Enter the user name to login into the FTP server.
- **Password:** Enter the password to login into the FTP server.
- **File Path Name:** Enter the destination folder for uploading the images. For example, /Test/.
- **Enable Passive Mode:** Select the **Enable** option to enable passive mode.

- **Test FTP:** When done, click the button to test the FTP server.

NOTE Due to the network environment, the camera may not upload number of images that you set.

SMTP Event Server: Select **Enable** to enable the SMTP server for the camera.

- **SMTP Mail Server:** Enter the mail server address. For example, airlive.com.
- **Port:** Assign the SMTP port in the text box. The default SMTP port is **25**.
- **Sender Email Address:** Enter the email address of the user who will send the email. For example, airlive@airlive.com.
- **Receiver #1/#2 Email Address:** Enter the first/second email address of the user who will receive the email.
- **Subject:** Enter the subject of the message for the event.
- **My Mail Server Requires Authentication:** Select the option according to the mail server configuration.
- **User Name:** Enter the user name to login the mail server.
- **Password:** Enter the password to login the mail server.
- **Test SMTP:** When done, click the button to test the SMTP server.
- **SSL Encryption:** If the mail server requires an encrypted connection, you should select the SSL option.

NOTE Due to the network environment, the camera may not upload number of images that you set.

Samba Event Server: Select **Enable** to enable the Network Storage server for the camera.

- **Samba Server Address:** Enter the IP address of the Network Storage server.
- **Path:** Assign the path for uploading the files on the Network Storage server. For example, /Test/.
- **User Name:** Enter the user name to login into the Network Storage server.
- **Password:** Enter the password to login into the Network Storage server.
- **Test SMB:** When done, click the button to test the network storage server.

NOTE The recorded video files in Network Storage are enclosed by MP4/AVI format without audio.

TCP Server: Select **Enable** to enable the TCP server for the camera.

- **TCP Server Address:** Enter the IP address of the TCP server.
- **TCP Port:** Set port number of TCP server

NOTE Due to the network environment, the camera may not upload number of images that you set.

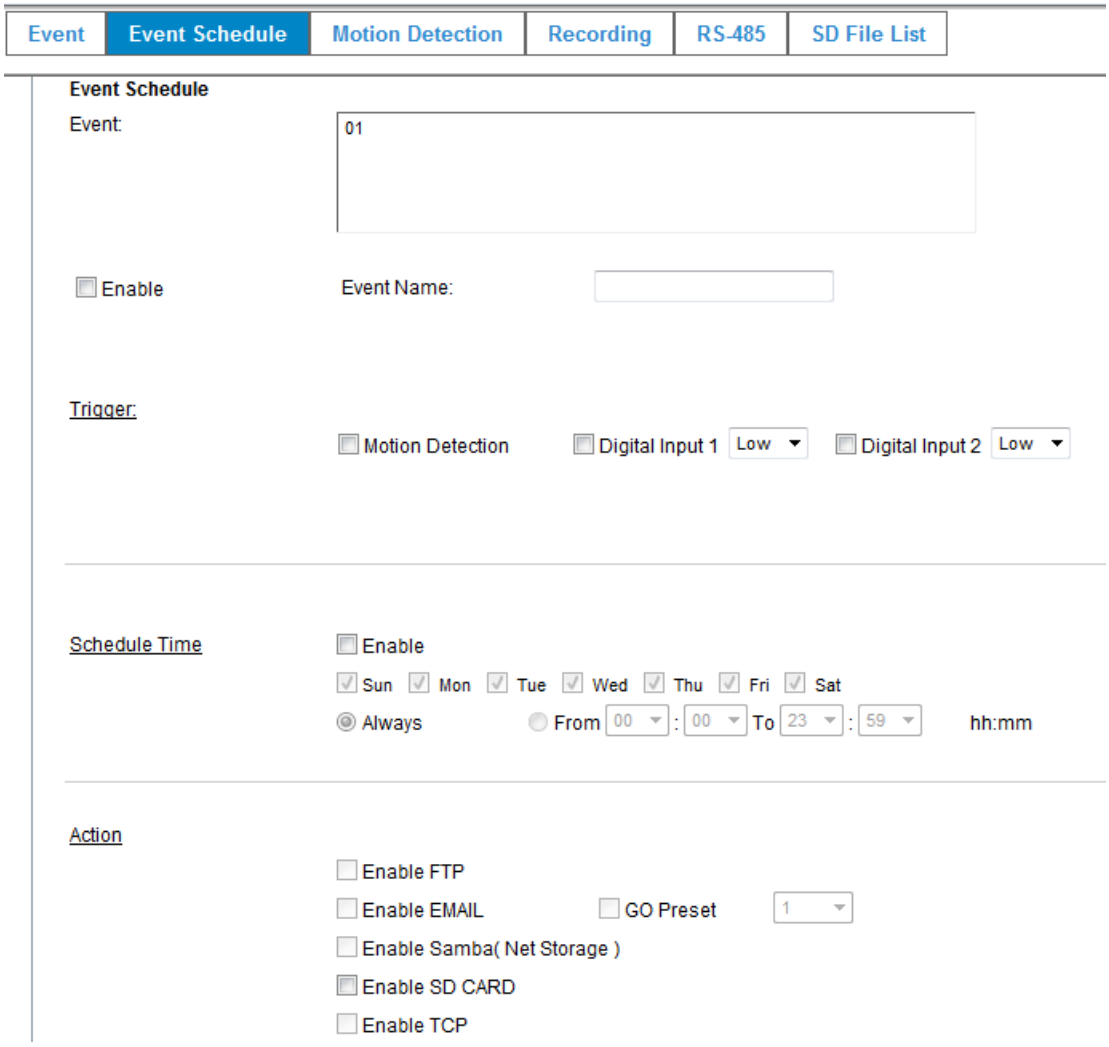
HTTP Event Server: Select **Enable** to enable the Http server for the camera.

- **URL:** Enter the IP address of the HTTP server.
- **HTTP Port:** Set port number of HTTP server.
- **User Name:** Enter the user name to login into the HTTP server.
- **Password:** Enter the password to login into the HTTP server.

NOTE Due to the network environment, the camera may not upload number of images that you set.

5.5.2 Event Schedule

This menu is used to specify the schedule of Event or Schedule Trigger and activate the some actions provided by this device. Where the Schedule Trigger will be activated by user-define interval without event happened.



Follow the steps below to set up the Event Schedule for the camera:

Select **Enable** and enter the **Event Name**.

Select the **Trigger** by: **Motion Detection**, **Digital Input 1**, or **Digital Input 2**.

Select the **Action** when triggered:

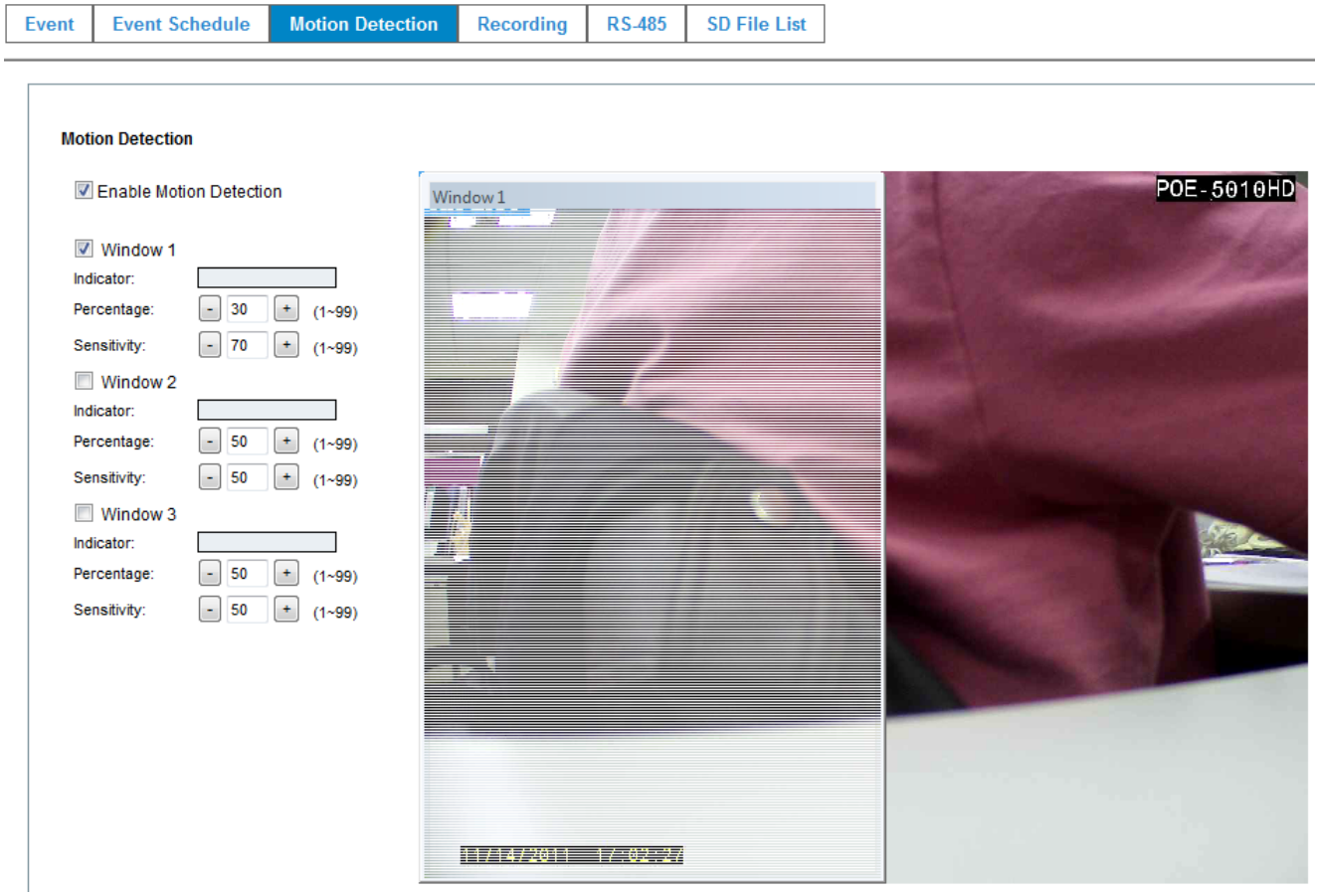
- **Enable FTP:** The camera will upload the attachment to FTP when triggered.
- **Enable EMAIL:** The camera will send the attachment to the assigned receiver when triggered.
- **Enable Samba:** The camera will transfer the attachment to the network storage when triggered.
- **Enable TCP:** The camera will send instant message to the TCP server when triggered.

- **Enable HTTP:** The camera will send instant message to the HTTP server when triggered.
- **GO Preset:** The camera will move to the preset position when triggered. Please note that the function is available only when a RS-485 device, such as an external camera stand with rotation function, is connected to the camera.
- **Enable SD CARD:** The camera will store the attachment to the SD card when triggered.
- **Trigger digital output:** The camera will trigger the connected device on the camera's output for 1~60 seconds (according to the setting of the pull-down menu).

When done, click **Add**. The event profile will be added to the Event list.

TIP To change/remove the event profile, select the desired profile from the Event list and then click **Modify**/**Delete**.

5.5.3 Motion Detection

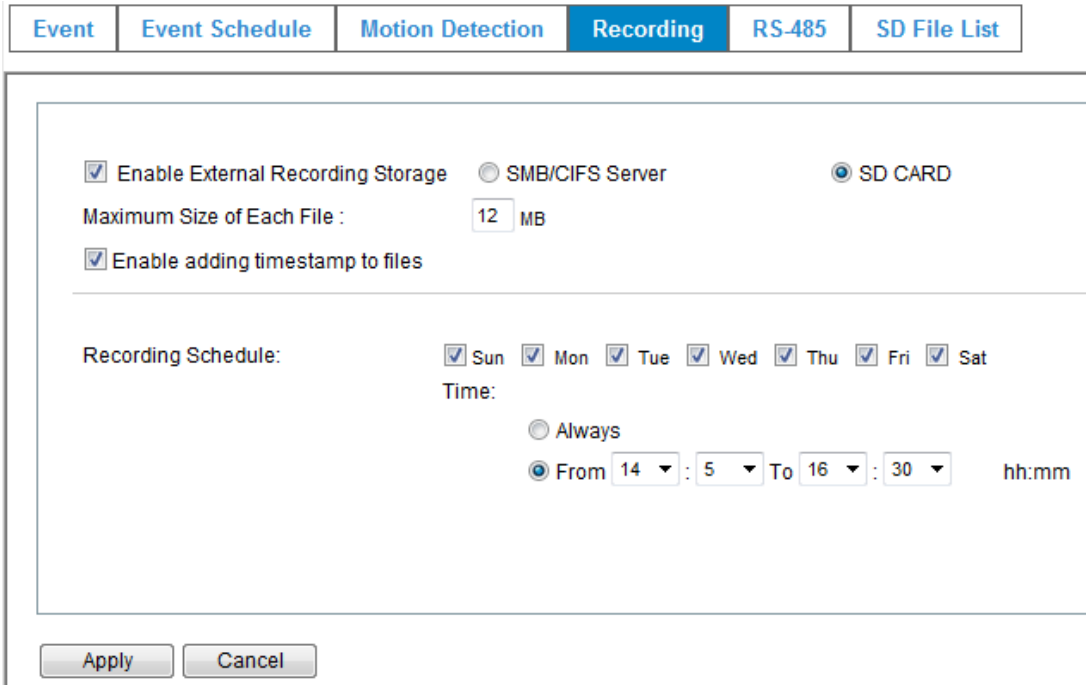


The Motion Detection option contains the commands and settings that allow you to enable and set up the motion detection feature of the camera. The camera provides three detecting areas.

Follow the steps below to set up the Motion Detection function for the camera:

1. Select **Enable Motion Detection**.
2. Select **Window 1/2/3**. When the detecting area is enabled, you can use the mouse to move the detecting area and change the area coverage.
3. Set the **Percentage** and **Sensitivity** (1~99) for detecting motion to record video.
4. When done, click **Apply** to save the settings and activate the motion detection function.

5.5.4 Recording



The Recording option allows you to set up the recording schedule for the camera.

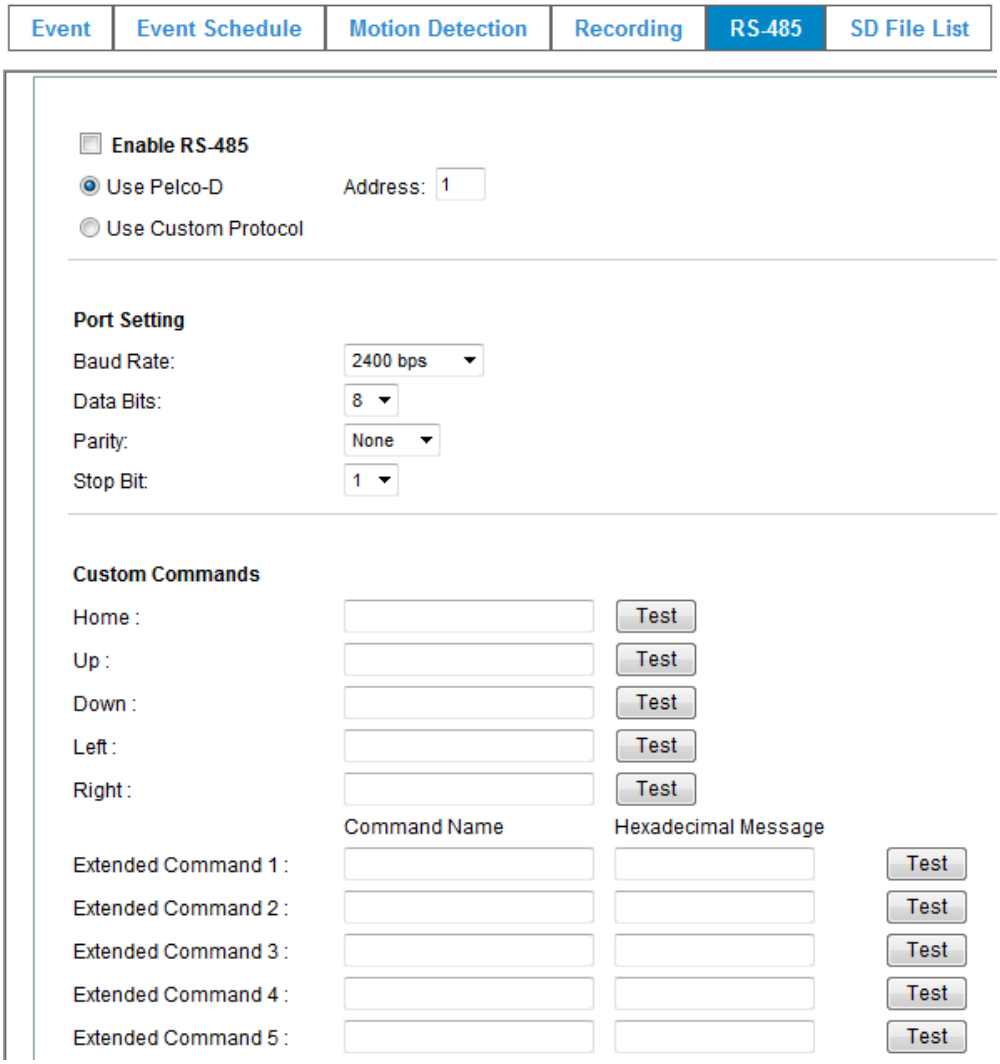
Enable SMB/CIFS Recording: Select the option to enable the SMB/CIFS server.

- **SMB/CIFS Server:** Enter the IP address of the Network Storage/CIFS server.
- **Upload Path:** Assign the path for uploading the files on the Network Storage/CIFS server. For example, /Test/.
- **Login Name:** Enter the user name to login into the Network Storage/CIFS server.
- **Password:** Enter the password to login into the Network Storage/CIFS server.

- **Maximum Size of Each File:** This option allows you to limit the file size to be uploaded to the server.
- **Timestamp:** Select this option to add the date & time information on the attachment.
    - **Recording Schedule:** Select **Always** to enable recording continuously, or select **From** and then set the day and time to record.

When done, click **Apply** to save the settings.

5.5.5 RS-485



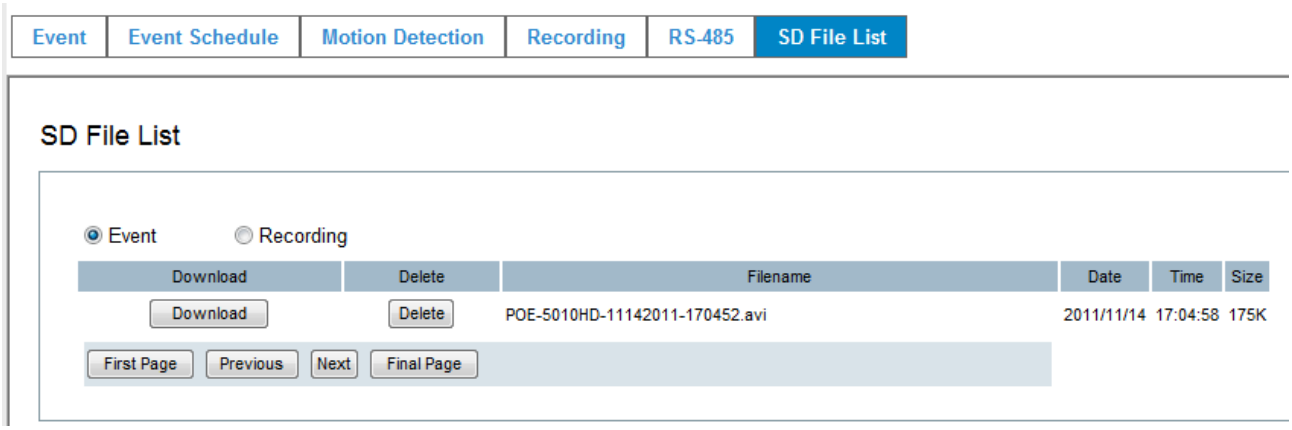
The RS-485 option provides the control settings for external device through the I/O port. Select **Enable RS-485** and complete the required settings to activate the RS-485 function of the camera.

Use Pelco-D: Select this option and then select an Address. When you enable the RS-485 function of the camera, you will be able to use the RS-485 Buttons on the live view screen to control the camera.

Use Custom Protocol: Select this option to configure the commands protocol manually. When you select this option, you need to complete the required settings of **Port Setting**.

You can click **Test** to test each command that you have assigned. In the **Extended Command 1~5** string boxes, you can customize more buttons and settings for your needs. Please note that the setting values in the **Command Name** string boxes should be from the connected external device (please refer to the manual of the connected device).

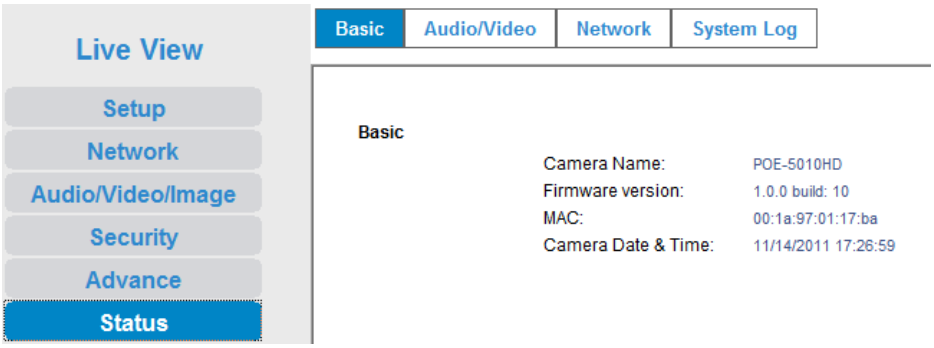
5.5.6 SD File List



This page shows the files list information. User may play or delete the selected file.

5.6 Status

The Status menu provides the current status of the camera, including the basic information, audio/video settings, networking configuration, and system logs.



Appendix A: Alarm I/O Connector

Some features of the Camera can be activated by the external sensor that senses physical changes in the area Camera is monitoring. These changes can include intrusion detection or certain physical change in the monitored area. For examples, the external sensor can be a door switch or an infrared motion detector. These devices are customer provided, and are available from dealers who carry surveillance and security products. Electrically, they must be able to provide a momentary contact closure.

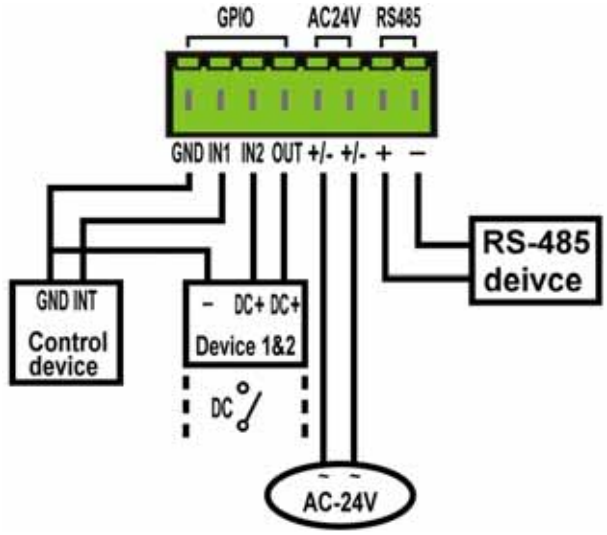
This Camera provides wires for general I/O terminal and RS485 interface as below:

Cable for I/O connectors:

PIN		SPECIFICATION
1	Ground (Common)	GND
2	GPIO Out #1	Close circuit current maximum: 70mA AC or 100mA Output resistance: 30 ohm Open circuit voltage maximum: 240V AC or 350V DC
3	GPIO In #1	Action high voltage: 9~40 VDC Dropout voltage: 0 VDC
4	GPIO In #2	
5	AC24V Power Input	AC power: 24V
6	AC24V Power Input	
7	RS-485 TX+	Compliant to RS-485
8	RS-485 TX-	

User can refer to the schematic below to make a proper connection between I/O connector and external sensor and output device.

Explanation of External I/O Circuit Diagram:



CAUTION!

• THE LOW VOLTAGE/CURRENT CIRCUITS AND HIGH VOLTAGE/ CURRENT CIRCUITS ARE IN THE NETWORK CAMERA CIRCUIT. THE QUALIFIED ELECTRICIAN SHOULD DO THE WIRING NOT BY YOURSELF. INCORRECT WIRING COULD DAMAGE NWTWORK CAMERA. YOU COULD RECEIVE THE FATAL ELECTRIC SHOCK.

• THE EXTERNAL I/O IS NOT CAPABLE OF CONNECTING DIRECTLY TO DEVICES THAT REQUIRE LARGE AMOUNTS OF CURRENT. IN SOME CASES, A CUSTOM INTERFACE CIRCUIT (CUSTOMER PROVIDED) MAY HAVE TO BE USED. SERIOUS DAMAGE TO NETWORK CAMERA MAY RESULT IF A DEVICE IS CONNECTED TO THE EXTERNAL I/O THAT EXCEEDS ITS ELECTRICAL CAPABILITY.

Appendix B: Frequently Asked Questions

Question	Answer or Resolution
Features	
The video and audio codec is adopted in the device.	The device utilizes H.264, MPEG4 and JPEG triple compression to providing high quality images. Where H.264 and MPEG4 are standards for video compression and JPEG is a standard for image compression. The audio codec is defined as AMR for 3GPP and G.711/G.726 for RTSP streaming.
The maximum numbers of users access the device simultaneously.	The maximum number of users is limited to 20. However, it also depends on the total bandwidth accessed to this device from clients. The maximum data throughput of the device is around 20~25Mbps for UDP mode and 10Mbps for HTTP mode. Therefore, the actual number of connected clients is varying by streaming mode, settings of resolution, codec type, frame rate and bandwidth. Obviously, the performance of the each connected client will slow down when many users are logged on.
The device can be used outdoors or not.	The device is not weatherproof. It needs to be equipped with a weatherproof case for outdoors using. However, equipped with a weatherproof case might disable the audio function of the device.
Install this device	
Status LED does not light up.	• Check and confirm that the DC power adaptor, included in packaged, is used. Secure the power connector and re-power it on again. • If the problem is not solved, the device might be faulty. Contact your dealer for further help.
The network cabling is required for the device.	The device uses Category 5 UTP cable allowing 10 and/or 100 Base-T networking.
The device will be installed and work if a firewall exists on the network.	If a firewall exists on the network, port 80 is open for ordinary data communication. The HTTP port and RTSP port need to be opened on the firewall or NAT router.
The username and password for the first time or after factory default reset	Username = **admin** and leave password **airlive**. Note that it's all case sensitivity.
Forgot the username and password	Follow the steps below. **1.** Restore the factory default setting by press pressing and holding down more than 3 seconds on the device.

	2. Reconfigure the device.
Forgot the IP address of the device.	Check IP address of device by using the IPWizard II program or by UPnP discovery.
IPWizard II program cannot find the device.	• Re-power the device if cannot find the unit within 1 minutes. • Do not connect device over a router. IPWizard II program cannot detect device over a router. • If IP address is not assigned to the PC which running IPWizard II program, then IPWizard II program cannot find device. Make sure that IP address is assigned to the PC properly. • Antivirus software on the PC might interfere with the setup program. Disable the firewall of the antivirus software during setting up this device. • Check the firewall setting of your PC or Notebook.
Internet Explorer does not seem to work well with the device	Make sure that your Internet Explorer is version 6.0 or later. If you are experiencing problems, try upgrading to the latest version of Microsoft's Internet Explorer from the Microsoft webpage.
IPWizard II program fails to save the network parameters.	• Network may have trouble. Confirm the parameters and connections of the device.
UPnP NAT Traversal	
Can not work with NAT router	• Maybe NAT router does not support UPnP function. Please check user's manual of router and turn on UPnP function. • Maybe UPnP function of NAT router is not compatible to the IP camera. Please contact your dealer to get the approval routers list.
Some IP cameras are working but others are failed	• Maybe too many IP cameras have been installed on the LAN, and then NAT router is out of resource to support more cameras. You could turn off and on NAT router to clear out of date information inside router.
Access this device	
Cannot access the login page and other web pages of the Network Camera from Internet Explorer	• Maybe the IP Address of the Network Camera is already being used by another device or computer. To confirm this possible problem, disconnect the Network Camera from the network first, and then run the PING utility to check it out. • Maybe due to the network cable. Try correcting your network cable and configuration. Test the network interface by connecting a local computer to the Network Camera via a crossover cable. • Make sure the Internet connection and setting is ok. • Make sure enter the IP address of Internet Explorer is correct. If the Network Camera has a dynamic address, it may have changed since you last checked it. • Network congestion may prevent the web page appearing quickly. Wait for a while.

	The IP address and Subnet Mask of the PC and Network Camera must be in the same class of the private IP address on the LAN. • Make sure the http port used by the Network Camera, default=80, is forward to the Network Camera's private IP address. • The port number assigned in your Network Camera might not be available via Internet. Check your ISP for available port. • The proxy server may prevent you from connecting directly to the Network Camera, set up not to use the proxy server. • Confirm that Default Gateway address is correct. • The router needs Port Forwarding feature. Refer to your router's manual for details. • Packet Filtering of the router may prohibit access from an external network. Refer to your router's manual for details. • Access the Network Camera from the Internet with the global IP address of the router and port number of Network Camera. • Some routers reject the global IP address to access the Network Camera on the same LAN. Access with the private IP address and correct port number of Network Camera. • When you use DDNS, you need to set Default Gateway and DNS server address. • If it's not working after above procedure, reset Network Camera to default setting and installed it again. • If the problem is not solved, the Network Camera might be faulty. Contact your dealer for further help.
Image or video does not appear in the main page.	• The first time the PC connects to Network Camera, a pop-up **Security Warning window** will appear to download ActiveX Controls. When using Windows XP, or Vista, log on with an appropriate account that is authorized to install applications. • Network congestion may prevent the Image screen from appearing quickly. You may choose lower resolution to reduce the required bandwidth.
Check the device's ActiveX is installed on your computer	Go to C:\Windows\Downloaded Program Files and check to see if there is an entry for the file "**IPCamera Control"**. The status column should show "Installed". If the file is not listed, make sure your Security Settings in Internet Explorer are configured properly and then try reloading the device's home page. Most likely, the ActiveX control did not download and install correctly. Check your Internet Explorer security settings and then close and restart Internet Explorer. Try to browse and log in again.
Internet Explorer displays the following message: "Your current	Setup the IE security settings or configure the individual settings to allow downloading and scripting of ActiveX controls.

security settings prohibit downloading ActiveX controls".	
The device work locally but not externally.	• Might be caused from the firewall protection. Check the Internet firewall with your system or network administrator. The firewall may need to have some settings changed in order for the device to be accessible outside your LAN. • Make sure that the device isn't conflicting with any other web server running on your LAN. • Check the configuration of the router settings allow the device to be accessed outside your local LAN. • Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly.
The unreadable characters are displayed.	Use the operating system of the selected language. Set the Encoding or the Character Set of the selected language on the Internet Explorer.
Frame rate is slower than the setting.	• The traffic of the network and the object of the image affect the frame rate. The network congestion causes frame rate slower than the setting. • Check the bandwidth of Internet connection. If the Internet bandwidth is lower than target bit rate, the video streaming will not work correctly. • Ethernet switching hub can smooth the frame rate.
Blank screen or very slow video when audio is enabled.	• Your connection to the device does not have enough bandwidth to support a higher frame rate for the streamed image size. Try reducing the video streaming size to 160x120 or 320x240 and/or disabling audio. • Audio will consume 32 kbps. Disable audio to improve video. Your Internet connection may not have enough bandwidth to support streaming audio from the device.
Image Transfer on e-mail or FTP does not work.	• Default Gateway and DNS server address should be set up correctly. • If FTP does not work properly, ask your ISP or network administrator about the transferring mode of FTP server.
Pan/Tilt does not work. (including Click to Center and Preset Positioning)	• Click **[Refresh]** on the Internet Explorer when the communication stops with the device. The image will refresh. • Other clients may be operating Pan/Tilt. • Pan/Tilt operation has reached the end of corner.
Pan/Tilt does not work smoothly.	There may be a slight delay when you are using the Pan/Tilt feature in conjunction with streaming audio and video. If you find that there is a significant delay while panning or tilting the camera, try disabling the audio streaming and/or reducing the video streaming size.
Video quality of the device	
The focus on the	• The lens is dirty or dust is attached. Fingerprints, dust, stain, etc. on

Camera is bad.	the lens can degrade the image quality.
The color of the image is poor or strange.	• Adjust White Balance. • To insure the images you are viewing are the best they can be, set the Display property setting (color quality) to 16bit at least and 24 bit or higher if possible within your computer. •The configuration on the device image display is incorrect. You need to adjust the image related parameters such as brightness, contrast, hue and sharpness properly.
Image flickers.	• Wrong power line frequency makes images flicker. Make sure the 50 or 60Hz format of your device. • If the object is dark, the image will flicker. Make the condition around the Camera brighter.
Noisy images occur.	The video images might be noisy if the device is located in a very low light environment. Make the condition around the camera brighter or turn the White-light LED on.
Miscellaneous	
Can not play the recorded ASF file	Have installed Microsoft®'s DirectX 9.0 or later and use the Windows Media Player 11.0 or later to play the AVI filed recorded by the Device.

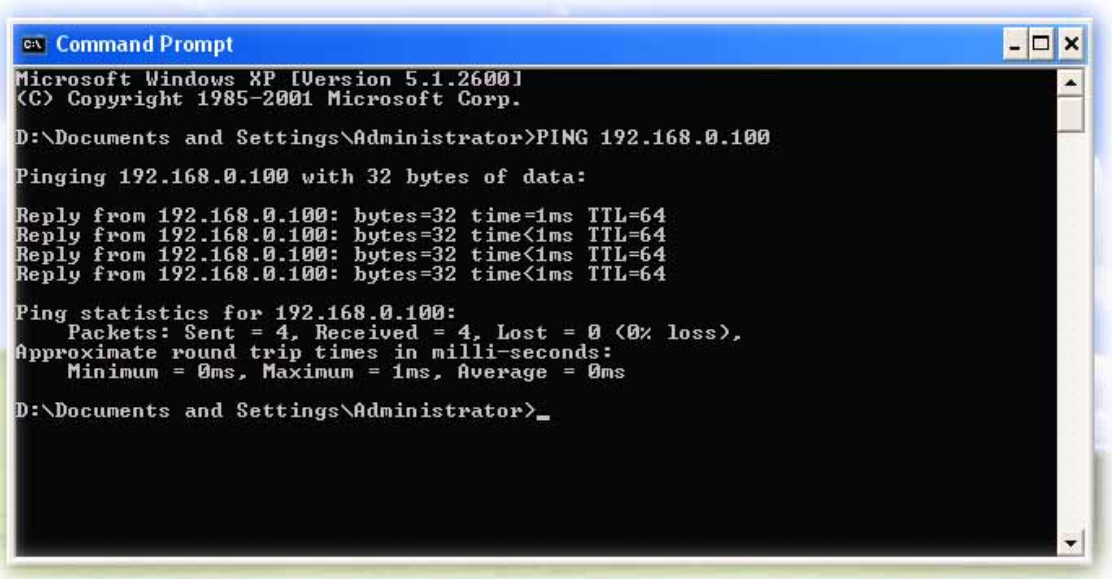
Appendix C: PING IP Address

The PING (stands for Packet Internet Groper) command is used to detect whether a specific IP address is accessible by sending a packet to the specific address and waiting for a reply. It's also a very useful tool to confirm Network Camera installed or if the IP address conflicts with any other devices over the network.

If you want to make sure the IP address of Network Camera, utilize the PING command as follows:

- Start a DOS window.
- Type ping x.x.x.x, where x.x.x.x is the IP address of the Network Camera.

The replies, as illustrated below, will provide an explanation to the problem.


Command Prompt
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.
D:\Documents and Settings\Administrator>PING 192.168.0.100
Pinging 192.168.0.100 with 32 bytes of data:
Reply from 192.168.0.100: bytes=32 time=1ms TTL=64
Reply from 192.168.0.100: bytes=32 time<1ms TTL=64
Reply from 192.168.0.100: bytes=32 time<1ms TTL=64
Reply from 192.168.0.100: bytes=32 time<1ms TTL=64
Ping statistics for 192.168.0.100:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 1ms, Average = 0ms
D:\Documents and Settings\Administrator>

If you want to detect any other devices conflicts with the IP address of Network Camera, also can utilize the PING command but you must disconnect the Network Camera from the network first.

Appendix D: Bandwidth Estimation

The frame rate of video transmitted from the device depends on connection bandwidth between client and server, video resolution, codec type, and quality setting of server. Here is a guideline to help you roughly estimate the bandwidth requirements form your device.

The required bandwidth depends on content of video source. The slow motion video will produce smaller bit rate generally and fast motion will produce higher bit rate vice versa. Actual results generated by the device may be varying.

Image Resolution	Average range of data sizes for JPEG mode	Average bit rate for MPEG4 mode	Average bit rate for H.264 mode
160 x 120 (QQVGA)	3 ~ 6k byte per frame	64kbps~256kbps @ 30fps	32kbps~192kbps @ 30fps
320 x 240 (QVGA)	8 ~ 20k byte per frame	256kbps~768kbps @ 30fps	192kbps~512kbps @ 30fps
640 x 480 (VGA)	20 ~ 50K byte per frame	512kbps~2048kbps @ 30fps	384kbps~1536kbps @ 30fps
1280x1024 (SXGA)	100 ~ 200k byte per frame	NA	512kbps~3076kbps @ 15fps

Note: Audio streaming also takes bandwidth around 32kbps. Some xDSL/Cable modem upload speeds could not even reach up to 128 kbps. Thus, you may not be able to receive good quality video while also streaming audio on a 128 kbps or lower connection. Even though the upload speed is more than 128kbps, for optimal video performance, disabling audio streaming will get better video performance.

Appendix E: Specifications

Camera	
Image Device	5 Mega-pixel image sensor
Effective Pixels	2592 x 1944 pixels
Sensitivity	0.5V/lux-sec (550nm)
Signal to Noise	44dB
Lens	F:1.2 ; f:4mm, C/CS mount (optional)
IRIS Control	DC IRIS
IP Module	
Video	
Video Encoder	H.264, MPEG4 and Motion JPEG simultaneously (Tri-encoders)
Image Setting	Brightness, sharpness, contrast, Saturation Text, time and date overlay
Resolution	- 2592 X 1920 @ 8 fps - 2048 x 1536 @ 15 fps - 1920 x1080 @ 25 fps - 1280 x960 @ 30 fps - 1280 x 720 @ 30 fps - 720 x 480 @ 30 fps - 640 x 480 @ 30 fps - 320 x 240 @ 30 fps - 176 x 144 @ 30 fps
Audio	
Audio Encoder	G.711
Audio Streaming	One-way or two-way
Microphone	Internal Omni-Directional Microphone
Audio Output	Line level out
Network	
Supported Protocols	TCP/IP, IPV6, UDP, ICMP, DHCP, NTP, DNS, DDNS, SMTP, FTP, HTTP, HTTPS, SAMBA, PPPoE, UPnP, Bonjour, RTP, RTSP and RTCP
Security	Password protection, IP address filtering, user access log
Users	20 simultaneous unicast users Unlimited users using multicast
Ethernet	10/100M auto negotiation
System Integration	
Application Programming Interface	Open API for software integration SDK
Alarm Triggers	Intelligent video motion detection and external input

Motion Detection	3-zone video motion detection
Alarm Events	Events Triggered by Motion Detection or GPIO or According to Schedule Image Upload/Send Over Email and FTP Store Image File to SD Card Recording Video File to Network Storage and SD Card
General	
RAM	128MB
ROM	32MB
Power Supply	12V DC external power adapter
PoE	IEEE 802.3af (for wired model only)
Power Consumption	8W max
Connectors	RJ-45 10BaseT/100BaseTX DC jack 1 alarm input and 1 output Audio in/out SD Slot
Indication LED	Two LEDs on the LAN socket
Protection Class	Indoor use
Operating Temperature	0°C to 50°C (32°F to 122°F)
Operating Humidity	20% ~ 85% (non-condensing)
Dimension	HxWxD:208x82x80 mm
Viewing System	
OS	Windows® XP, Vista,Win7
Browser	IE 6.0 or latter / Firefox 2.0 or later
Cell Phone	With 3GPP player
Video Player	VLC, Quick Time, Real Player
Software	
Search & Installation	IPWizard II
Bundled NVR Program	CamPro Express 64

Appendix F: Configure Port Forwarding Manually

The device can be used with a router. If the device wants to be accessed from the WAN, its IP address needs to be setup as fixed IP address, also the port forwarding or Virtual Server function of router needs to be setup. This device supports UPnP traversal function. Therefore, user could use this feature to configure port forwarding of NAT router first. However, if user needs to configure port forwarding manually, please follow the steps as below:
Manually installing the device with a router on your network is an easy 3–step procedure as following:

(1) Assign a local/fixed IP address to your device
(2) Access the Router with Your Web browser
(3) Open/Configure Virtual Server Ports of Your Router

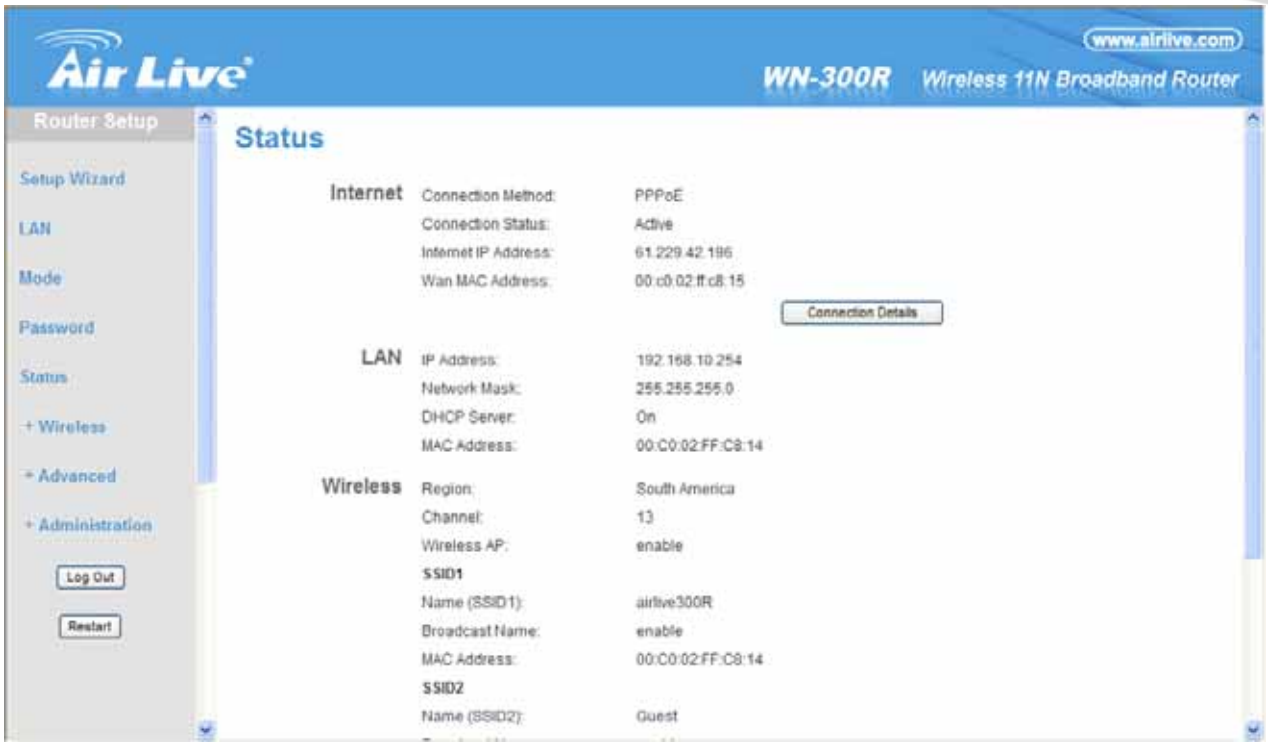
(1) Assign a local/fixed IP address to your device

The device must be assigned a local and fixed IP Address that allows it to be recognized by the router. Manually setup the device with a fixed IP address, for example, *192.168.0.100*.

(2) Access the Router with Your Web browser

The following steps generally apply to any router that you have on your network. The WN-300R is used as an example to clarify the configuration process. Configure the initial settings of the router by following the steps outlined in the router's **Quick Installation Guide**.

If you have cable or DSL service, you will most likely have a dynamically assigned WAN IP Address. 'Dynamic' means that your router's WAN IP address can change from time to time depending on your ISP. A dynamic WAN IP Address identifies your router on the public network and allows it to access the Internet. To find out what your router's WAN IP Address is, go to the **Status** screen on your router and locate the WAN information for your router. As shown on the following page the WAN IP Address will be listed. This will be the address that you will need to type in your web browser to view your camera over the Internet. Be sure to uncheck the **Reset IP address at next boot** button at the top of the screen after modifying the IP address. Failure to do so will reset the IP address when you restart your computer.



Your WAN IP Address will be listed here.

Note: Because a dynamic WAN IP can change from time to time depending on your ISP, you may want to obtain a Static IP address from your ISP. A Static IP address is a fixed IP address that will not change over time and will be more convenient for you to use to access your camera from a remote location. If you could not get a Static IP address from your ISP, the DIPS™ or DDNS is a solution alternatively. Please refer to Appendix G for more information.

(3) Open/set Virtual Server Ports to enable remote image viewing

The firewall security features built into the router and most routers prevent users from accessing the video from the device over the Internet. The router connects to the Internet over a series of numbered ports. The ports normally used by the device are blocked from access over the Internet. Therefore, these ports need to be made accessible over the Internet. This is accomplished using the **Virtual Server** function on the router. The Virtual Server ports used by the camera must be opened through the router for remote access to your camera. Virtual Server is accessed by clicking on the **Advanced** tab of the router screen.

Follow these steps to configure your router's Virtual Server settings

- Click **Enabled**.
- Enter a unique name for each entry.
- Select **Both** under **Protocol Type** (**TCP** and **UDP**)
- Enter your camera's local IP Address (e.g., **192.168.1.100**, for example) in the **Private IP** field
- If you are using the default camera port settings, enter **80** into the **Public** and **Private Port** section, click **Apply.**
- **Scheduling** should be set to **Always** so that the camera images can be accessed at any time.

A check mark appearing before the entry name will indicate that the ports are enabled

Important: Some ISPs block access to port 80. Be sure to check with your ISP so that you can open the appropriate ports accordingly. If your ISP does not pass traffic on port 80, you will need to change the port the camera uses from 80 to something else, such as 8080. Not all routers are the same, so refer to your user manual for specific instructions on how to open ports.

Enter valid ports in the **Virtual Server** section of your router. Please make sure to check the box on this line to enable settings. Then the device can be access from WAN by the router's WAN IP Address.

By now, you have finished your entire PC configuration for this device.

Appendix G: DDNS Application

1. Preface

If you have a Cable modem or xDSL, this is a great way to host your own Networked Device or other TCP/IP Service. Get your own domain like www.yourname.com, www.yourname.com.tw etc. (Note: This domain must be registered with Internic via registration authorities such as Network Solutions, DirectNIC, Register.com etc). Your domain name's dynamic IP address is automatically tracked by a DDNS server.

Host your own Networked Device and much more no matter what your computer's IP address may be and even if you have dialup, DSL or cable modem internet connection where your computer's IP address changes all the time!! DDNS service supports all top level domain names including but not limited to .com, .net, .org, .to, .uk etc.

2. Ethernet Network Environment

Normally, DDNS service is only necessary for the users that could only obtain dynamic IP addresses. As to the users that could obtain the static valid IP address, they do not usually have to apply the DDNS service. Before we decide if DDNS is necessary for the users, we have to check what kind of Ethernet network environment we have to install our Networked Device on.

(1) Environment of Fixed Valid IP Network

If users could obtain valid IP addresses, they could save the effort to apply DDNS service. Because the IP address in this environment is fixed, users could input the IP address or domain name of demo site directly in the IE browser.

(2) Environment of Dynamic IP Network

If users is under an environment of dynamic IP network (Dial-up xDSL), they have to apply a domain name in advance. Then apply DDNS service. Finally setup the necessary information of DDNS and PPPoE of the Networked Device in order to let the outside administrator be able to access through internet.

3. Application Steps—DDNS & Domain Name

(1). Visit the following web site: http://www.dyndns.org/

(2). Click "Account"

(3). After the columns show up at the left side, click "Create Account"

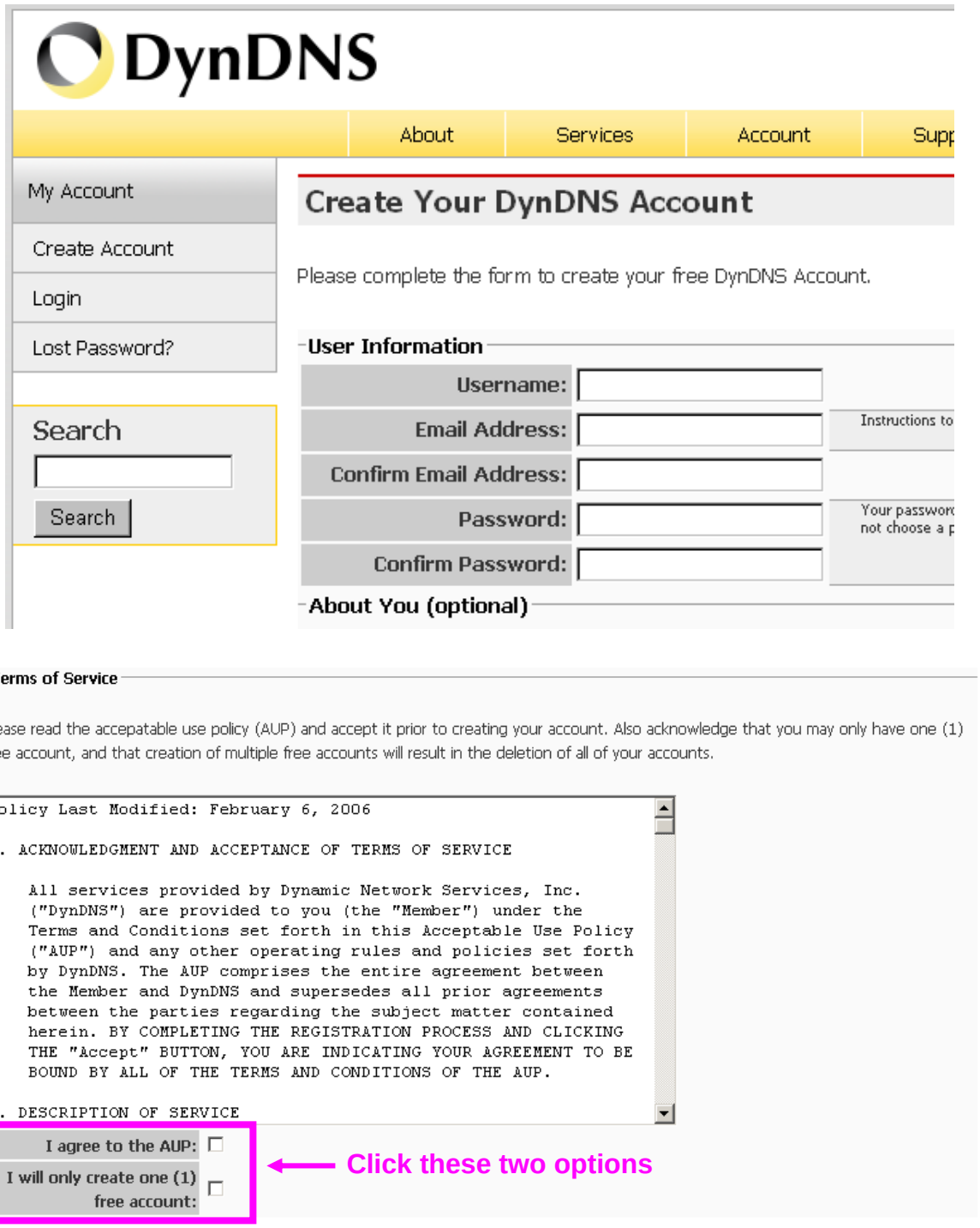
(4). Fill the application agreement and necessary information.

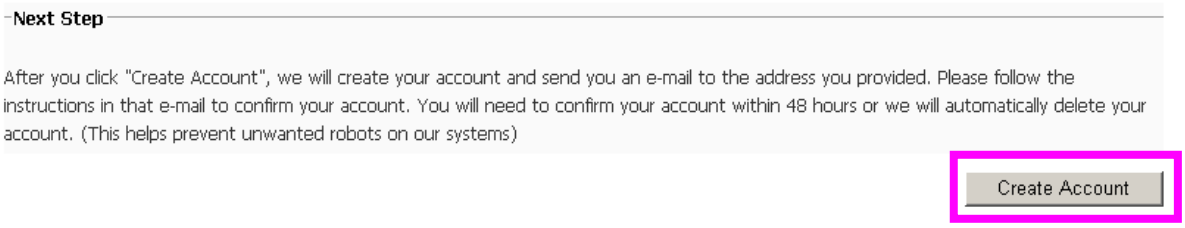
a. Username

b. E-mail address and confirmation

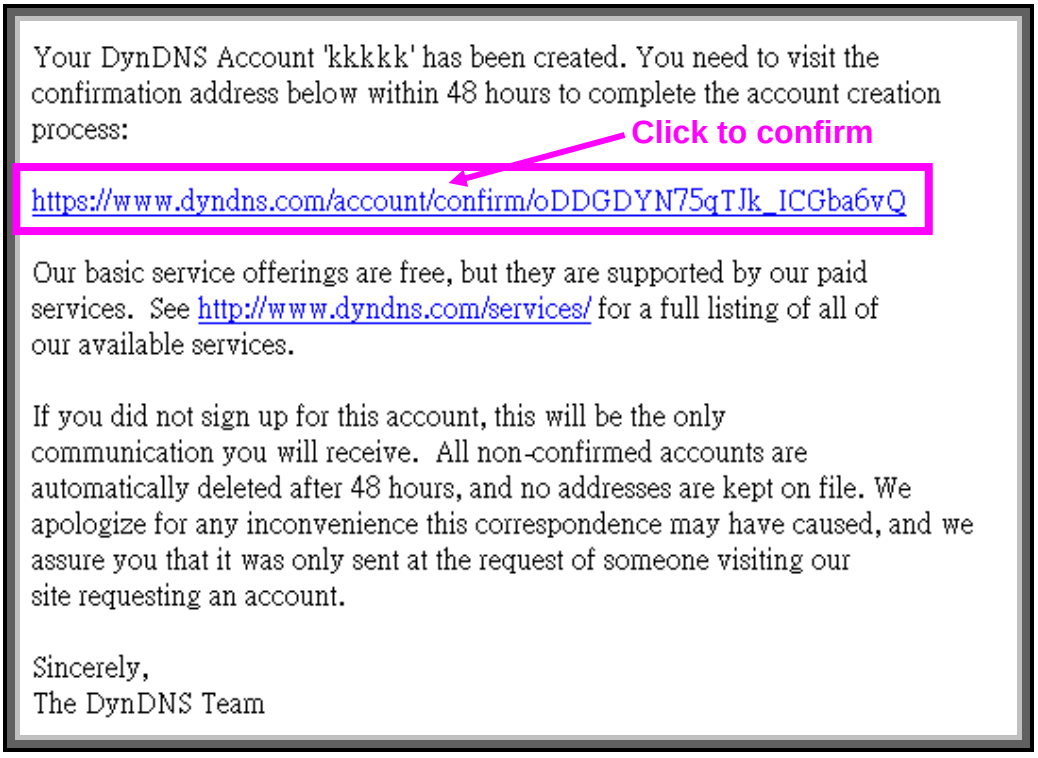
c. Password and confirmation

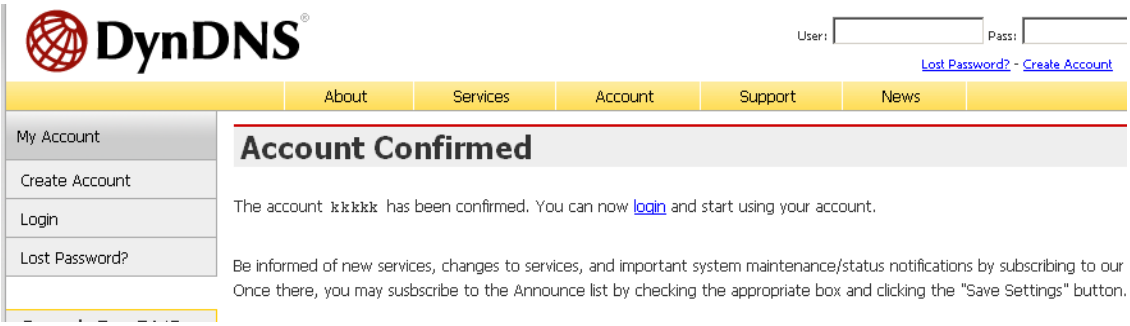
d. Submit all the input information and finish creating an account


DynDNS
About
Services
Account
Supp
My Account
Create Account
Login
Lost Password?
Search
Search
Create Your DynDNS Account
Please complete the form to create your free DynDNS Account.
User Information
Username:
Email Address:
Confirm Email Address:
Password:
Confirm Password:
Instructions to
Your passwor
not choose a p
About You (optional)
Terms of Service
Please read the accepatable use policy (AUP) and accept it prior to creating your account. Also acknowledge that you may only have one (1) free account, and that creation of multiple free accounts will result in the deletion of all of your accounts.
Policy Last Modified: February 6, 2006
1. ACKNOWLEDGMENT AND ACCEPTANCE OF TERMS OF SERVICE
All services provided by Dynamic Network Services, Inc. ("DynDNS") are provided to you (the "Member") under the Terms and Conditions set forth in this Acceptable Use Policy ("AUP") and any other operating rules and policies set forth by DynDNS. The AUP comprises the entire agreement between the Member and DynDNS and supersedes all prior agreements between the parties regarding the subject matter contained herein. BY COMPLETING THE REGISTRATION PROCESS AND CLICKING THE "Accept" BUTTON, YOU ARE INDICATING YOUR AGREEMENT TO BE BOUND BY ALL OF THE TERMS AND CONDITIONS OF THE AUP.
2. DESCRIPTION OF SERVICE
I agree to the AUP:
I will only create one (1) free account:
Click these two options

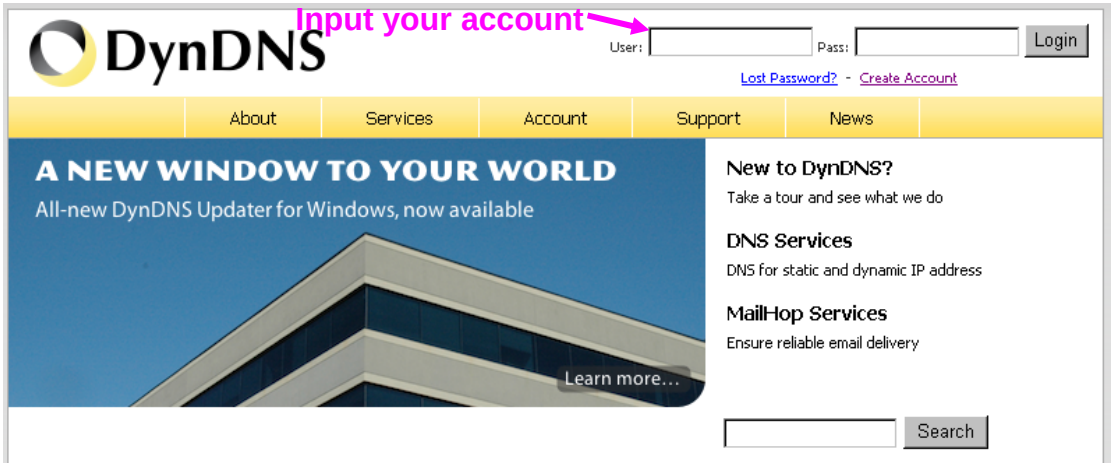

Next Step
After you click "Create Account", we will create your account and send you an e-mail to the address you provided. Please follow the instructions in that e-mail to confirm your account. You will need to confirm your account within 48 hours or we will automatically delete your account. (This helps prevent unwanted robots on our systems)
Create Account

(5). Check your e-mail mailbox. There will be an e-mail with a title “Your DynDNS Account Information“. Click the hyperlink address to confirm the DDNS service that you just applied. Then DDNS you applied activated.


Your DynDNS Account 'kkkkk' has been created. You need to visit the confirmation address below within 48 hours to complete the account creation process:
Click to confirm
https://www.dyndns.com/account/confirm/oDDGDYN75qTJk_ICGba6vQ
Our basic service offerings are free, but they are supported by our paid services. See http://www.dyndns.com/services/ for a full listing of all of our available services.
If you did not sign up for this account, this will be the only communication you will receive. All non-confirmed accounts are automatically deleted after 48 hours, and no addresses are kept on file. We apologize for any inconvenience this correspondence may have caused, and we assure you that it was only sent at the request of someone visiting our site requesting an account.
Sincerely,
The DynDNS Team

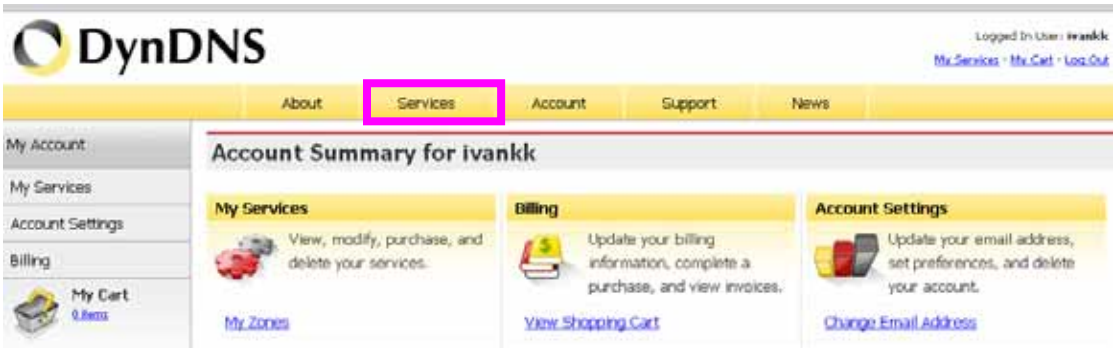

DynDNS
User:
Pass:
Lost Password? - Create Account
About
Services
Account
Support
News
My Account
Create Account
Login
Lost Password?
Account Confirmed
The account kkkkk has been confirmed. You can now login and start using your account.
Be informed of new services, changes to services, and important system maintenance/status notifications by subscribing to our
Once there, you may susbscribe to the Announce list by checking the appropriate box and clicking the "Save Settings" button.

(6). Enter the web page http://www.dyndns.org/ again. Input your username and password that you just applied to login administration interface of DDNS server.

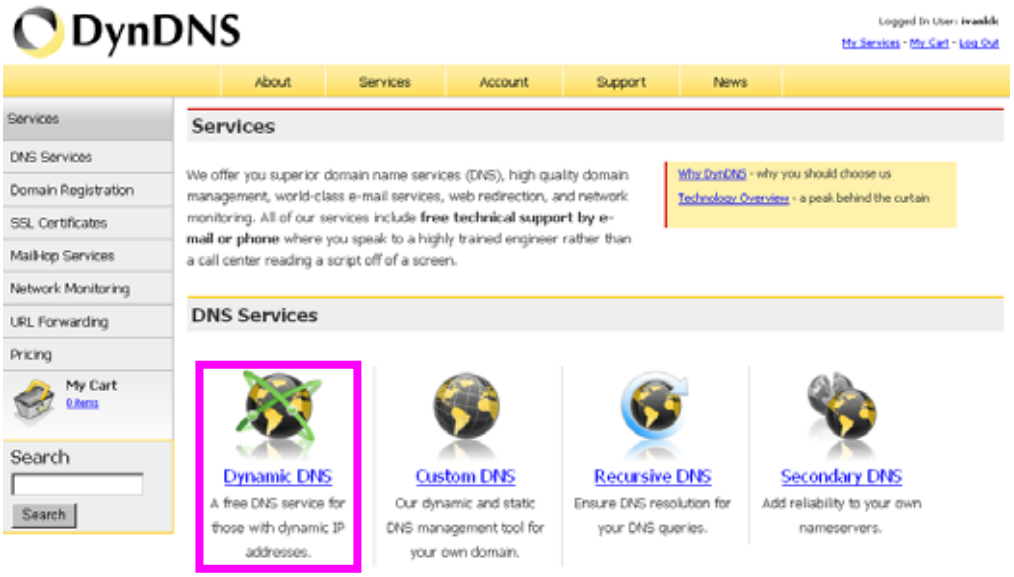


(7). If the correct username and password are input, you can see the following picture at the top-right of the login page.

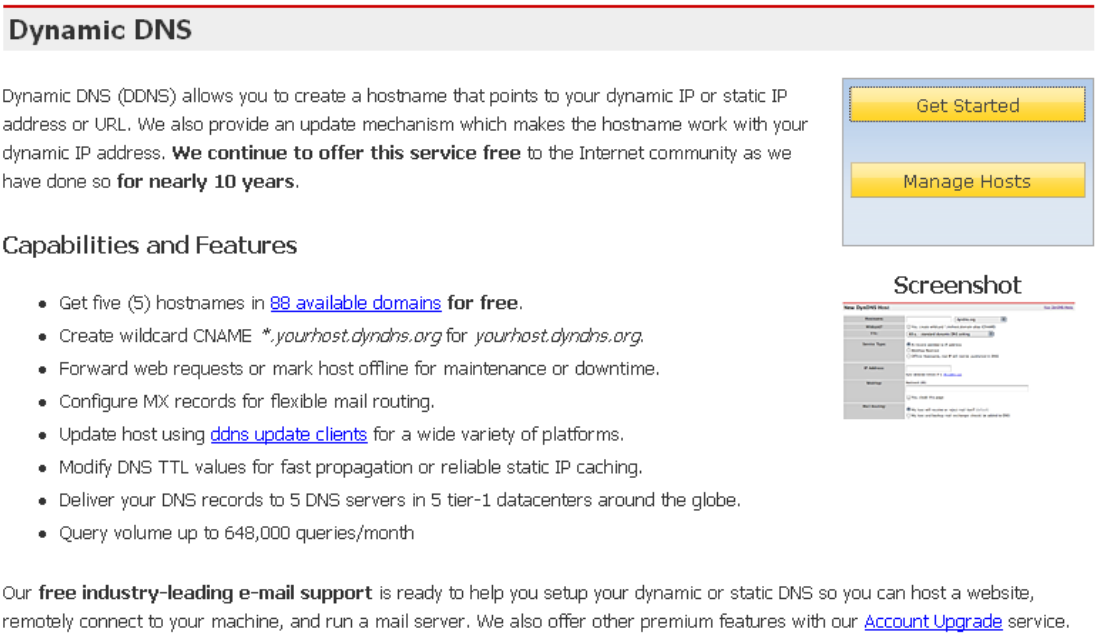
(8). Click the "Services".



(9). Click the " Dynamic DNS ".


DynDNS
My Services - My Cart - Log Out
About
Services
Account
Support
News
Services
DNS Services
Domain Registration
SSL Certificates
MailHop Services
Network Monitoring
URL Forwarding
Pricing
My Cart
Search
Search
Services
We offer you superior domain name services (DNS), high quality domain management, world-class e-mail services, web redirection, and network monitoring. All of our services include free technical support by e-mail or phone where you speak to a highly trained engineer rather than a call center reading a script off of a screen.
Why DynDNS - why you should choose us
Technology Overview - a peak behind the curtain
DNS Services
Dynamic DNS
A free DNS service for those with dynamic IP addresses.
Custom DNS
Our dynamic and static DNS management tool for your own domain.
Recursive DNS
Ensure DNS resolution for your DNS queries.
Secondary DNS
Add reliability to your own nameservers.

(10). Click the "Get Started".


Dynamic DNS
Dynamic DNS (DDNS) allows you to create a hostname that points to your dynamic IP or static IP address or URL. We also provide an update mechanism which makes the hostname work with your dynamic IP address. We continue to offer this service free to the Internet community as we have done so for nearly 10 years.
Get Started
Manage Hosts
Screenshot
Capabilities and Features
Get five (5) hostnames in 88 available domains for free.
Create wildcard CNAME *.yourhost.dyndns.org for yourhost.dyndns.org.
Forward web requests or mark host offline for maintenance or downtime.
Configure MX records for flexible mail routing.
Update host using ddns update clients for a wide variety of platforms.
Modify DNS TTL values for fast propagation or reliable static IP caching.
Deliver your DNS records to 5 DNS servers in 5 tier-1 datacenters around the globe.
Query volume up to 648,000 queries/month
Our free industry-leading e-mail support is ready to help you setup your dynamic or static DNS so you can host a website, remotely connect to your machine, and run a mail server. We also offer other premium features with our Account Upgrade service.

(11). We could create a domain name without any charge at this step. First, we input the host name. (Pink No.1) Then we pick a domain that is easy to remember. (Pink No.2) The 3rd step is to click "Offline Hostname" from Service Type. (Pink No.3) Finally, click the "Create Host" to submit the domain name information and finish DDNS application. (Pink No.4)

Add New Hostname
Host Services
Note: You currently don't have Account Upgrades in your account. You cannot use some of our Host Service features. Please consider buying Account upgrade that make this form full-functional and will add several other features. Learn More...
1
Hostname:
amtk
dyndns.org
2
Wildcard:
Yes, alias "*.hostname.domain" to same settings.
Service Type:
Host with IP address
WebHop Redirect
3
Offline Hostname
IP Address:
Use auto detected IP address 118.168.38.166.
TTL value is 60 seconds. Edit TTL.
Please enter valid IP address (optional for Offline hostnames).
Mail Routing:
Yes, let me configure Email routing.
4
Create Host

4. Setup the DDNS and PPPoE of Networked Device

At last, users have to enter the web page of Networked Device and setup the necessary information of DDNS and PPPoE after the application of DDNS service. Please check the user manual to access the DDNS and PPPoE pages. After saving the modification, restart the device. Then the external users could browse the Networked Device by the input of their domain name.

Appendix H: Power Line Frequency

COUNTRY	VOLTAGE	FREQUENCY	COMMENTS
Argentina	220V	50 Hz	*Neutral and line wires are reversed from that used in Australia and elsewhere.
Australia	230V*	50 Hz	*Outlets typically controlled by adjacent switch. Though *nominal* voltage has been officially changed to 230V, 240V is within tolerances and commonly found.
Austria	230V	50 Hz	
Brazil	110/220V*	60 Hz	*127V found in states of Bahia, Paran?(including Curitiba), Rio de Janeiro, S 綾 Paulo and Minas Gerais (though 220V may be found in some hotels). Other areas are 220V only, with the exception of Fortaleza (240V).
Canada	120V	60 Hz	
China, People's Republic of	220V	50 Hz	
Finland	230V	50 Hz	
France	230V	50 Hz	
Germany	230V	50 Hz	
Hong Kong	220V*	50 Hz	
India	230V	50 Hz	
Italy	230V	50 Hz	
Japan	100V	50/60 Hz*	*Eastern Japan 50 Hz (Tokyo, Kawasaki, Sapporo, Yokohoma, and Sendai); Western Japan 60 Hz (Osaka, Kyoto, Nagoya, Hiroshima)
Malaysia	240V	50 Hz	
Netherlands	230V	50 Hz	
Portugal	230V	50 Hz	
Spain	230V	50 Hz	
Sweden	230V	50 Hz	
Switzerland	230V	50 Hz	
Taiwan	110V	60 Hz	
Thailand	220V	50 Hz	
United Kingdom	230V*	50 Hz	*Outlets typically controlled by adjacent switch. Though *nominal* voltage has been officially changed to 230V, 240V is within tolerances and commonly found.
United States of America	120V	60 Hz	

Appendix I: 3GPP

To use the 3GPP function, in addition to previous section, you might need more information or configuration to make this function work.

Note that to use the 3GPP function, it strongly recommends to install the Networked Device with a public and fixed IP address without any firewall protection.

RTSP Port:
Port 554 is the default for RTSP service. However, sometimes, some service providers change this port number for some reasons. If so, user needs to change this port accordingly.

Dialing procedure:

1. Choose a verified player (PacketVideo or Realplayer currently)

2. Use the following URL to access:

    rtsp://*host*/mpeg4

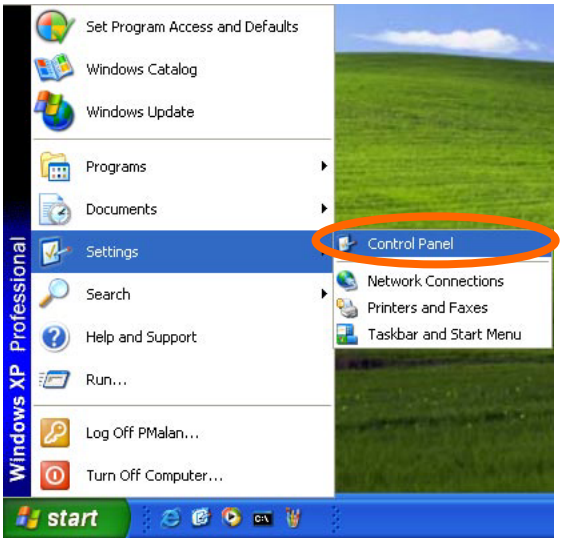
Where *host* is the host name or IP address of the camera.

Compatible 3G mobile phone:
Please contact your dealer to get the approved list of compatible 3G phone.

Appendix J: Enable UPnP of Windows XP

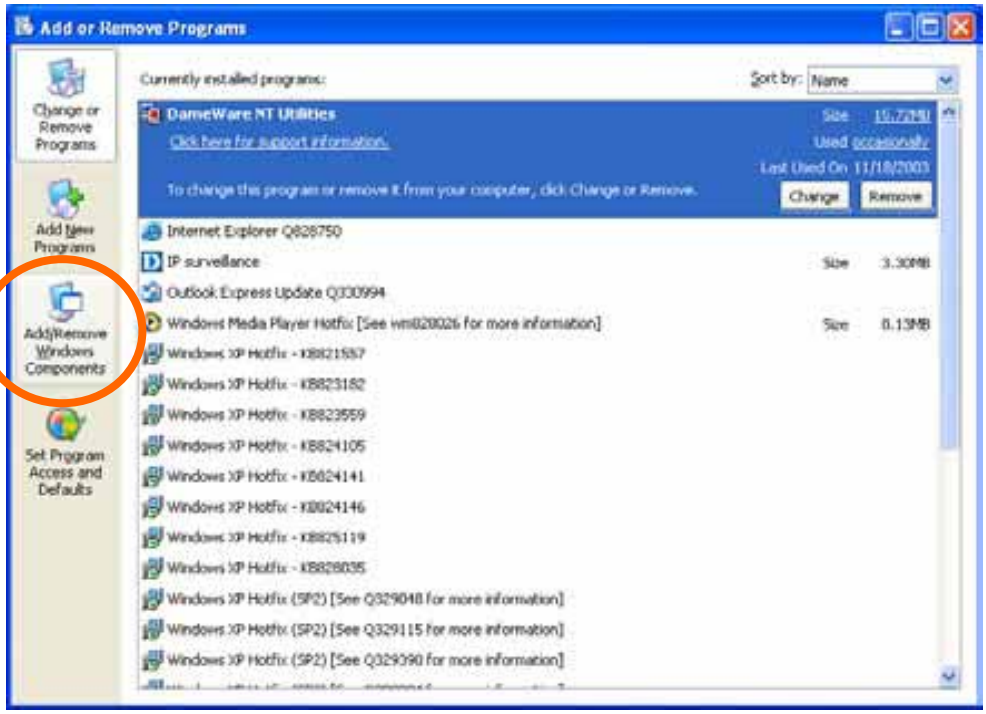
Use the following steps to enable UPnP settings only if your operating system of PC is running Windows XP.

Go to **Start > Settings**, and then click **Control Panel**



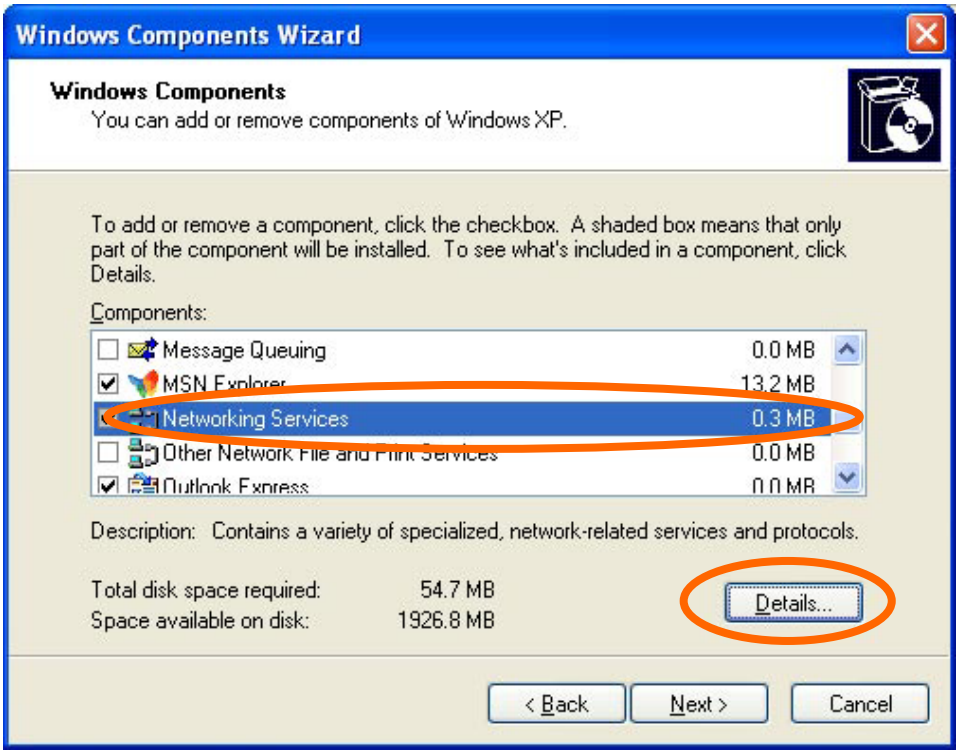
Click **Add or Remove Programs**

Click **Add/Remove Windows Components**

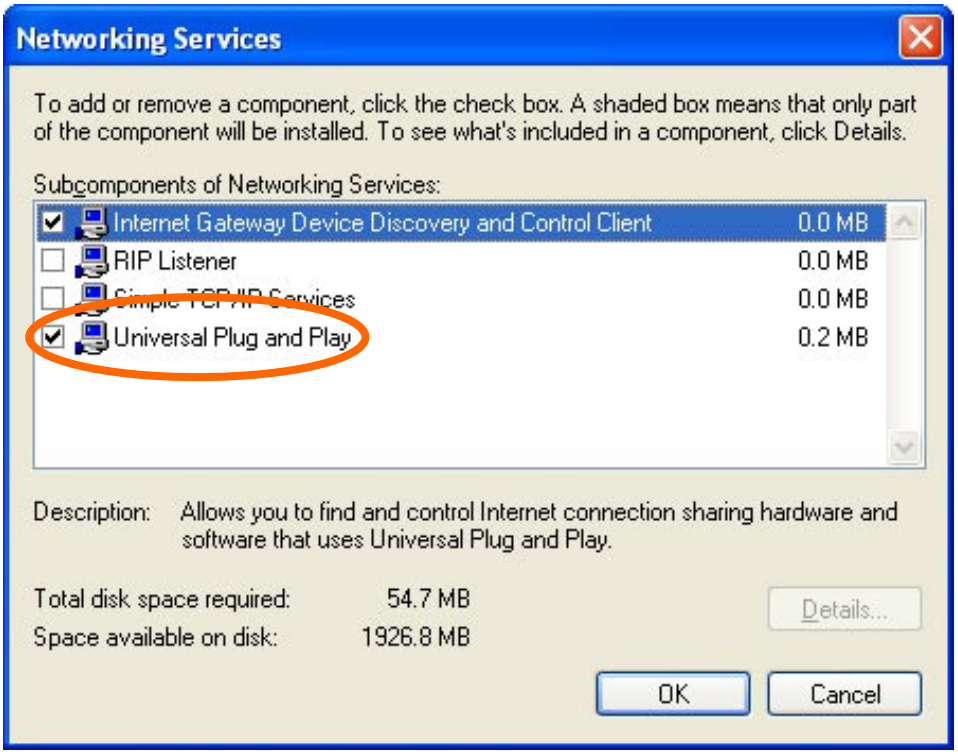

Add or Remove Programs
Currently installed programs:
Sort by: Name
Change or Remove Programs
Add New Programs
Add/Remove Windows Components
Set Program Access and Defaults
DameWare NT Utilities
Click here for support information.
To change this program or remove it from your computer, click Change or Remove.
Change
Remove
Internet Explorer Q828750
IP surveillance
Outlook Express Update Q330994
Windows Media Player Hotfix [See wm828026 for more information]

The following screen will appear:

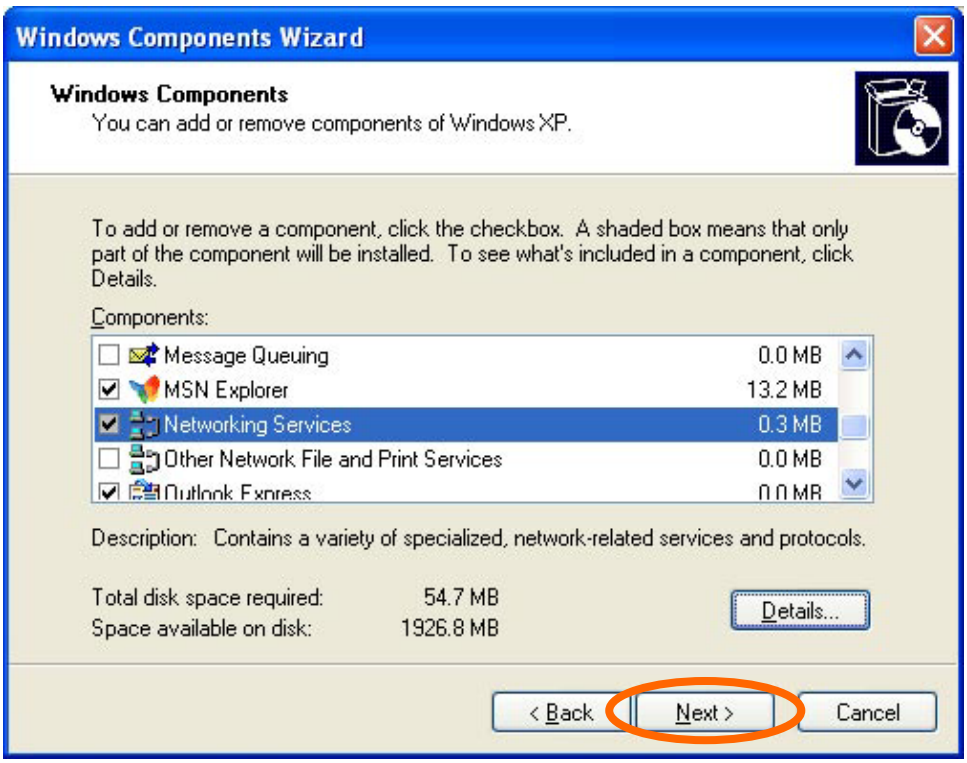
Select **Networking Services**, and then click **Details**


Windows Components Wizard
Windows Components
You can add or remove components of Windows XP.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Message Queuing 0.0 MB
MSN Explorer 13.2 MB
Networking Services 0.3 MB
Other Network File and Print Services 0.0 MB
Outlook Express 0.0 MB
Description: Contains a variety of specialized, network-related services and protocols.
Total disk space required: 54.7 MB
Space available on disk: 1926.8 MB
Details...
< Back
Next >
Cancel

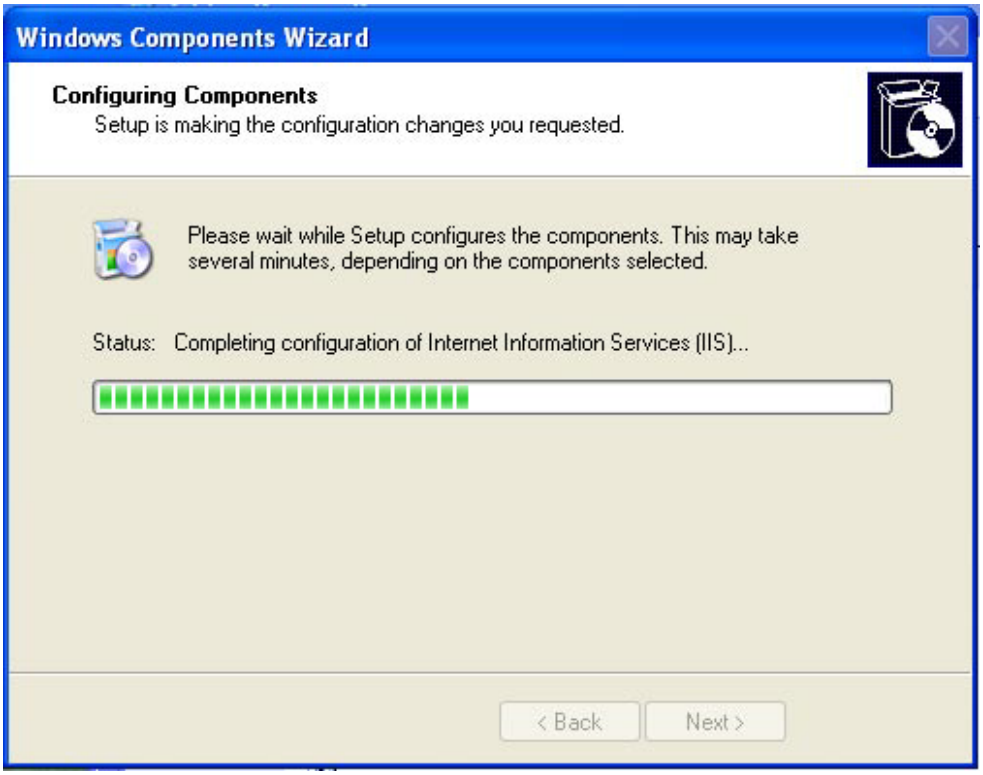
Select **Universal Plug and Play**, and then click **OK**


Networking Services
To add or remove a component, click the check box. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Subcomponents of Networking Services:
Internet Gateway Device Discovery and Control Client 0.0 MB
RIP Listener 0.0 MB
0.0 MB
Universal Plug and Play 0.2 MB
Description: Allows you to find and control Internet connection sharing hardware and software that uses Universal Plug and Play.
Total disk space required: 54.7 MB
Space available on disk: 1926.8 MB
Details...
OK
Cancel

Click **Next**


Windows Components Wizard
Windows Components
You can add or remove components of Windows XP.
To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.
Components:
Message Queuing 0.0 MB
MSN Explorer 13.2 MB
Networking Services 0.3 MB
Other Network File and Print Services 0.0 MB
Outlook Express 0.0 MB
Description: Contains a variety of specialized, network-related services and protocols.
Total disk space required: 54.7 MB
Space available on disk: 1926.8 MB
Details...
< Back
Next >
Cancel

Please wait while Setup configures the components.


Windows Components Wizard
Configuring Components
Setup is making the configuration changes you requested.
Please wait while Setup configures the components. This may take several minutes, depending on the components selected.
Status: Completing configuration of Internet Information Services (IIS)...
< Back
Next >

Click **Finish**

Windows Components Wizard
Completing the Windows Components Wizard
You have successfully completed the Windows Components Wizard.
To close this wizard, click Finish.
< Back
Finish